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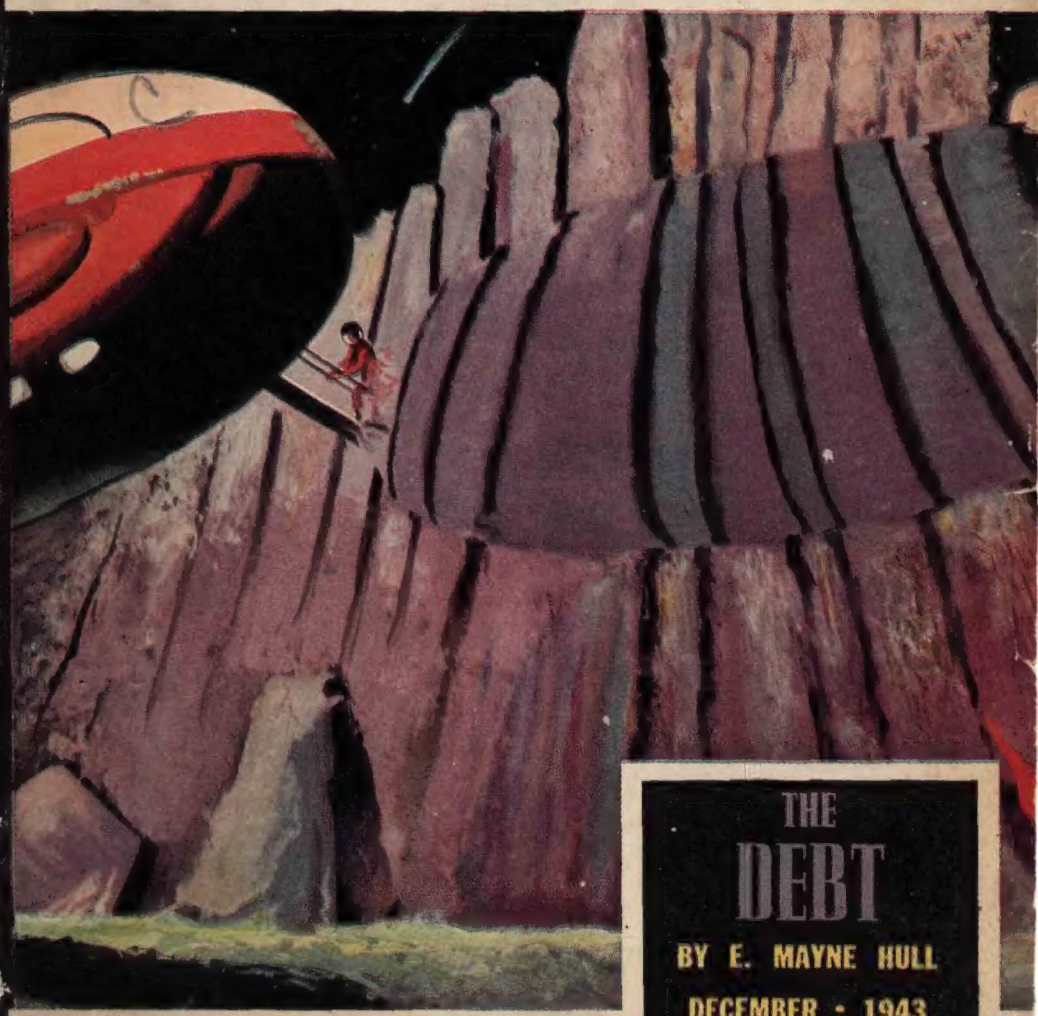

THE

DEBT

BY E. MAYNE HULL

DECEMBER • 1943

25 CENTS

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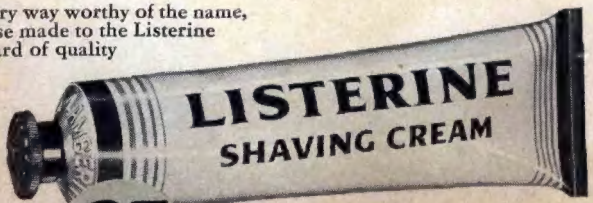

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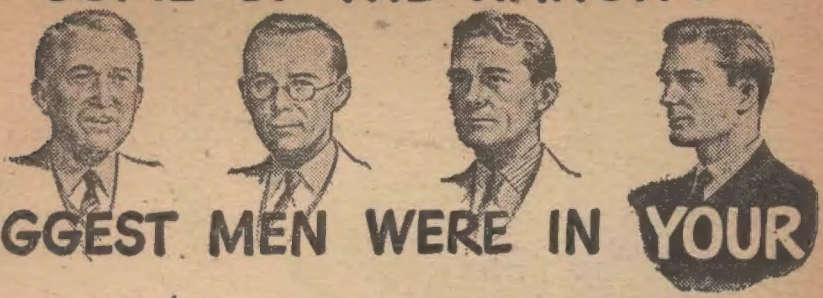

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ASTOUNDING SCIENCE FICTION

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CONTENTS

DECEMBER, 1943 VOL. XXXII, NO. 4

NOVELETTES

THE DEBT, *by E. Mayne Hull* 7
LOST ART, *by George O. Smith* 33
WE PRINT THE TRUTH, *by Anthony Boucher* . 125

SHORT STORIES

FRICASSEE IN FOUR DIMENSIONS, *by P. Schuyler Miller* 55
THE IRON STANDARD, *by Lewis Padgett* . . 74

ARTICLES

MASTER CHEMIST, *by Arthur McCann* . . . 101
EXTRATERRESTRIAL BACTERIA, *by Willy Ley* 110

READERS' DEPARTMENTS

THE EDITOR'S PAGE 6
IN TIMES TO COME 32
THE ANALYTICAL LABORATORY 32
BRASS TACKS 122

COVER BY TIMMINS Illustrations by Kramer and Orban

Editor
JOHN W. CAMPBELL, JR.

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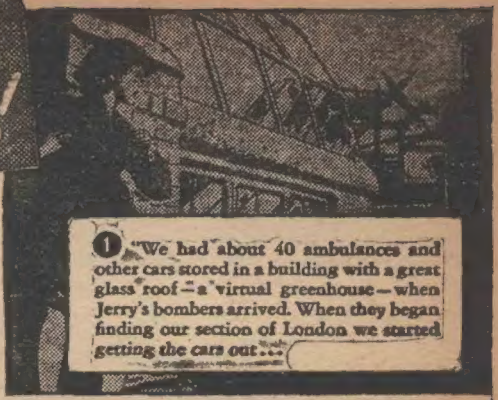
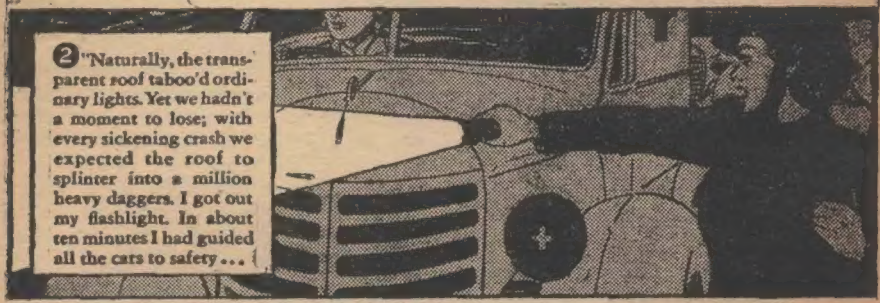
BLITZED IN A GREENHOUSE!

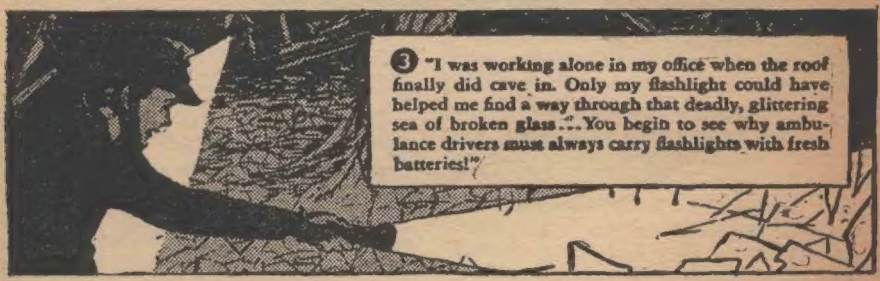
(The exciting experience of Margaret Bridges, of the London Auxiliary Ambulance service, during one of London's heaviest raids. Pretty, attractive 30-year-old Miss Bridges is part English, part American. She volunteered for the ambulance service, reporting for duty just three days before war was declared.)



1 "We had about 40 ambulances and other cars stored in a building with a great glass roof—a virtual greenhouse—when Jerry's bombers arrived. When they began finding our section of London we started getting the cars out..."



2 "Naturally, the transparent roof taboo'd ordinary lights. Yet we hadn't a moment to lose; with every sickening crash we expected the roof to splinter into a million heavy daggers. I got out my flashlight. In about ten minutes I had guided all the cars to safety..."



3 "I was working alone in my office when the roof finally did cave in. Only my flashlight could have helped me find a way through that deadly, glittering sea of broken glass... You begin to see why ambulance drivers must always carry flashlights with fresh batteries!"

Your dealer may have no "Eveready" flashlight batteries. If so, please don't blame him—almost the entire supply is currently going to the armed forces and those war industries with the highest priority ratings.

Send for "You and the War," official O.C.D. guidebook to all vitally important war posts available to civilians. This free booklet tells exactly what there is to do and how to do it. Write National Carbon Company, Dept. DU, 30 E. 42nd St., New York 17, N. Y.

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FRESH BATTERIES LAST LONGER...
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Insects Now

The modern high-altitude precision bombing technique involves a complex tie-in between the precision bombsight and a precision autopilot. The bombardier takes control of the plane when the bombsight ties in with the autopilot, and the bombardier, training his sights on the target and holding them there, permits an automatic and highly complex electro-mechanical nerve-and-muscle system to do the job. It lacks eyes; the bombardier has to supply those—and, because his are the eyes, and they can't be directly, electronically hooked into the rest of the mechanism, the bombardier must operate controls to keep the target in the cross hairs. Save for that—the whole system closely resembles a stupendous stinging insect, guiding itself, controlling, leveling, directing its own flight, sighting its prey, and accurately delivering the sting.

The nerves are copper wires, the ganglia electron tubes and the sense-organ gyroscopes, variable capacitors, sensitive metal membranes, the muscles—of two sorts—are motors. There are the great flying muscles, the four main engines, and the more delicate trimming muscles, the electric motors that control the tail surfaces, the wing tabs and ailerons—and release the deadly sting.

An insect appears to have no emotions, no thoughts, only reactions. A grasshopper crawling near a praying mantis brings forth certain automatic reactions—and the grasshopper is caught. In so low an animal as a grasshopper, the nerve centers aren't centered—they're scattered, so the grasshopper continues reacting, struggling, even though so damaged as to be unable to live.

The Flying Fortress has shown that same sort of blind, senseless struggling to live, to escape, after "life" was impossible for it, and for the same reason. With the fuselage cut more than half through, damaged beyond any hope of repair, like an insect, with an insect's blind and senseless continuation of hopeless struggle, the huge plane came home. The crew, of course, came home with it; their determination to get home was far from blind or senseless—but it would have been hopeless if it had not been that the plane itself, like some terrible insect, had a definite nervous organization, a sensitive, complex nerve-and-muscle co-ordination organized on so distributed a level that even that great wound had not destroyed the co-ordination.

Time and again, the flying giants have been wounded beyond repair—and struggled home with the mindless determination of living things that cannot understand what death is.

Already man has made these blind, flying insect-things of metal and glass and vacuum—blind, too stupid to stop trying, but awful in the precision of the nervous organization that lets them deliver their terrible sting. They must borrow their eyes from men, and borrow their will to act or not act. But they have a nervous organization that lets them fly two thousand miles after the crew has left. A nervous organization that has been known to bring in a damaged plane, after the crew had bailed out, to a perfect landing.

In the years after the war, they may get eyes—or some more useful type of sense organ unlimited by night or fog, and a sort of telepathy to keep them in "mental" contact with higher minds behind them, giving them the will and purpose they lack.

Still they'll be insects, unknowing, stupid things, for all their size. Bees to gather honey or hornets to sting.

But—how long till men make a dog-thing that knows of its own existence, and of its builder, and helps him consciously?

THE EDITOR.

The Debt

by E. Mayne Hull

The Skal Thing had promised Artur Blord one favor—but also, for its own reasons, sworn to destroy him—

Illustrated by Orban

METAL! flashed the automatic alarms of the spaceship control board. METAL! METAL!

Artur Blord peered into the plates, frowning. But there was only darkness in the direction the red pointers were indicating. Darkness and a faint sprinkling of stars.

A quick glance at the estimator showed that he was three light-years from the Zand sun, and eight from the double star, Carox A and B, the next nearest of the Ridge Star suns. The metal object registered about two hundred miles ahead.

Could be an iron meteorite, Blord analyzed. But not very likely. Not out here. Besides, his automatics were of the advanced Rejector type: they could examine any simple structure such as a meteorite, adjust to its course, and proceed at top speed, all without sounding an alarm.

A ship then? Blord sent a quick glance at the power recorder, but the instrument showed no sign of life. Whatever was out there wasn't

even manufacturing enough energy to heat a radiator, let alone a drive coil.

Nothing like being nosey, he thought wryly.

But he knew it was more than that. The odd quality in his character that made him curious about anything and everything, the quality that enabled him to withdraw his entire attention from an important deal and become absorbed with an almost mindless intensity in something seemingly completely irrelevant and immaterial, had made him the despair of his associates and the wonder of his enemies.

Nevertheless—and it was Blord's greatest secret—it was this very capacity to which he attributed the enormous success he had had in the Ridge Stars. The capacity for pulling his mind clear of past triumphs and future hopes, and savoring the moment, the *now*.

With a flick of his hand, he touched the button that synchronized his telescopic cameras with the red glowing pointers—and pressed home the plunger.

The yellow traces leaped into view on the plate. Though tremendously slower than light, the distance to the still invisible object out there in the darkness was now less than a hundred miles; and the tracers reached it instantly.

There was a flare of yellow in the distance. The photographs showed a spaceship about a fifth of a mile long, not a light burning.

Blord snapped on his eldophone. "Vision call!" he intoned into the mouthpiece. "Vision call!"

No answer. He felt his first chill. A derelict. He sent his memory tumbling back over the list of spaceship accidents that had occurred in the Ridge Stars since his own arrival a few years before. It was a scanty list, and besides, all the ships had been recovered.

In no case, he remembered narrow-eyed, had there been any doubt about the cause of the disaster; and the pattern had never varied: All the men dead, all the women missing.

Suddenly grim, he maneuvered his small machine toward the ship. As he had expected, the locks hung open; the temperature on the thermometer of his spacesuit registered forty below, centigrade, as he moved along the corridor from his point of entrance, splitting the darkness with the glaring lights from his headpiece. About two hours, he thought: two hours ago. It would take that long for the ship's interior to cool.

He came to his first dead body. It was of a young man, a fine-looking chap, whose left breast had been shot away by what, from the size of the wound, could only have been a semimobile blaster.

There were other dead bodies as Blord hurried along, all men, some of them so horribly mutilated by the ravenous energy that had smashed their lives, that Blord, hardened as he was to death, retched twice.

Rage, driving deadly anger, always made him more, not less, alert. And it was this that saved him.

He was peering into a bedroom

when it happened, a movement glimpsed from the corner of his left eye. A movement with enough menace in it to send him diving for the floor.

The splash of the hand blaster sprayed the air where he had been. Instantly, Blord was on his feet. The energy was still corruscating on the far wall—when he had the arm that wielded the gun—had the wielder bent backward over his knee, helpless.

He looked down into a woman's face wet with the tears of panic-stricken terror and blue with cold—

She thawed out in the warming environment of Blord's ship. The fear, that had seemed a part of her facial structure, scaled off like a horror mask removed. Underneath was a distinctive face, and a personality that seemed to recover quickly from the shattering blows it had been dealt.

She looked around with alert blue eyes. "This is a private space yacht?" she asked.

Blord nodded. But he did not take his gaze from her. He was puzzled, not by the general picture, but by the individual variations. The freighter had been a spaceship from Earth, loaded with a human cargo for the Ridge Stars. Usually, the girls and women aboard such vessels were big-eyed innocents, product of a crimeless planet, where the social sciences had been applied to the masses with a vengeance.

This woman didn't quite fit. She had a delicate, youthful, almost a girlish face, but after a moment he did not hesitate to assess her age at thirty.

The woman seemed to tire abruptly of her examination of her surroundings. She returned her attention to him, and said:

"I'm Ellen Reith. I have a lot of other names, but I'm divorced from three of them, and the owner of the fourth is probably wondering where his bride is."

She smiled wanly, went on: "I was born with more money than there used to be on Earth five thousand years ago. In spite of a swarm of tutors and mentors, I grew up wild, married the first time at seventeen, and three times since then. I suddenly realized what a mess I'd made, and I came out here to the frontiers to make a new start. I intend to marry a farmer, have five kids, and forget there ever was such a person as Mrs. Gilmour-Morgan-Davis-Castlefield."

The confession, Blord realized, was one that would not have been made by a woman in full control of herself. He had better make a point of reassuring her afterward that he had a short memory about some things. The woman was speaking again, more wearily now; the excitement of the rescue was beginning to wear off; she said in a tired voice:

"I fired at you because I thought *they* had come back." She shuddered, finished: "I suppose you want to know what happened?"

Blord shook his head grimly. "I know what happened. Now, you just go to sleep. We can talk later."

"You *know* what happened!" Her blue eyes were wide. "Then you know who's responsible, and where the other women were taken."

Blord nodded.

Ellen Reith stared at him. "Where?"

"I'll tell you all about it later. You must get some sleep now."

"Where?"

Blord sighed. He could appreciate the fascination the fate she had escaped would have on her mind. When he had told her, she lay very quiet; her body seemed taut under the blanket that he had placed over her. She whispered finally:

"You mean this Skal Thing kidnaps girls for its Castle of Pleasure, and nobody's doing anything about it?"

Her voice had a higher pitch to it, as she went on: "You've reported what's happened, haven't you?"

Blord stared at her thoughtfully. "Well, no, not exactly; not yet."

"But," she gasped urgently, "there may be others aboard, alive. And perhaps the ship with the women can be intercepted. They—"

She seemed to realize that her words were hardly touching him. With a convulsive effort, she pulled herself back out of hysteria, and said sharply:

"What's wrong with doing something? What's wrong with trying to save others who are aboard?"

"Go to sleep!" said Blord. He stood up, and walked out of the little room, back to the control board.

He was convinced his examination of the ravaged freighter had been thorough; not a soul remained alive aboard it.

He had made a point of leaving everything exactly as he found it; the bodies in their sprawled positions, the air locks open.

Beyond doubt it had been a job done with the assistance of men who had come with the freighter all the way from Earth. An inside job carried out with clocklike precision at a set rendezvous by the gangs of human scum employed by that sardonic and ancient beast, the Skal Thing, who lived in the depths of the Castle of Pleasure on the long-dead planet of Delfi I.

The Skal Thing had not so long ago promised him a favor. But Blord knew with utter certainty that it would never grant any favor that endangered its own henchmen.

They were now endangered. Because of the physical examinations regulating people who emigrated to the stars, they'd have to be aboard undisguised. By this time they knew there was a woman missing. A woman who must have seen some of the gang aboard the freighter.

A woman, accordingly, who would be mercilessly exterminated —unless he took every conceivable counteraction, fast.

He put his calls through. But it was two hours before his eldophone *brred* softly. The first reply was from his business manager, Magrusson. The plump man spoke softly, as if the subject matter had a subduing effect on him:

"The invisible ship will meet you five hours from now. The pilot will be Nicer, who will make the exchange above the jungle island of Carox A II, and will then proceed here, where he will be conditioned to believe that he was the one who actually took your ship out from Zand."

"Hm-m-m." Blord nodded doubtfully. "I guess that's the best we can do. I don't know just how such a conditioning would hold up if he were taken before the Skal Thing. I have an idea the Thing can go deeper into minds than any covering up we can do.

"It is important to remember, however, that it may take no part in the game at all. I have an idea it holds itself very aloof from its hirelings. I'm simply taking no unnecessary chances. If you think of any further precautions on your own, let me know. Good-by."

The second call came a minute later. A woman's face flashed onto the plate.

"Artur," she said swiftly, "I went in and talked to the chief of Secret Police as you suggested. I didn't tell him, of course, why I wanted the information. I pretended that I had just come across a piece about it. Well, he just opened right up."

"Good girl!"

The woman smiled with pleasure at the praise, then grew more serious. "I'm afraid you're out of luck if you're really planning to tackle the Skal Thing, unless you can get the beast to kill itself as a special favor to you and the world."

"Maybe you've got something there," Blord laughed softly. "It owes me a favor. But go on. What's wrong?"

"Everything! You wanted to know the details of the various attacks made on the Castle of Pleasure by the Ridge Star governments. Well, here they are:

"The castle is made of a metal, or *is* a force structure, that doesn't even start to fuse when atomic energy is directed against it. As you know, there were other ancient buildings at one time on Delfi I, relics of a civilization of long-dead Skal Things. They were all destroyed rather suddenly soon after human beings came to Delfi II. But not before some loose pieces had been taken to Earth for study.

"Nobody knows what the metal is. It's the old trouble: Age hardening of alloys using catalysts. Unless you know the catalytic agent and the environment, method and period of hardening, you can study the finished metal until your mind congeals without learning its secrets.

"The metal's electronic pattern is known; I'll send you the formula to you know where; and that's all about that. But here's something very special and private:

"Ninety-six police warships were destroyed in the three attacks made on the Castle of Pleasure. That's never been revealed publicly. They were destroyed by a bright-green ray, the electronic structure of which was similar in every detail to that of the metal. Figure that one out.

"Finally, the main hide-outs of the human gangs that work for the Thing are dead dark secrets. There are so many suns, so many unexplored planets that even looking for hideaways is hopeless. But its obvious that they must have supply centers in big cities. Two places are under strong suspicion. One of these is the great Midnight Club in the city Negor on Fasser III; the other—"

"Just a minute," Blord cut in. "I'll get those names on a wire."

When he had them, his tone changed. "How's everything with you, Medon?"

The woman smiled brilliantly. "Wonderful. I have another baby, a lovely boy. But I mustn't stay talking here. I'll be seeing you, Artur. Good-by."

The plate went dark. Blord turned, then stopped, and stared thoughtfully at Ellen Reith. She was sitting in a chair ten feet away, and she looked as if she had been there for several minutes at least.

Her short sleep had had a revivifying effect; and somewhere she had found time to do neat things to her brown-gold hair. Her eyes sparkled. Slim and self-possessed, she sat eying him, a faint smile on her delicate, aristocratic face. The smile became a shadow.

"I heard it all, except part of the man's words, enough to gather that I'm in danger. Is that right?"

She didn't look as if she was afraid. Two hours before she had seemed thirty; now—

Blord found himself gazing at her admiringly. He liked mature women who could look eighteen under stress. And, as he had never intended to keep her in the dark, he explained the situation briefly.

When he had finished, the woman was silent for a long moment. Finally, with utter irrelevance, she said:

"Who is she?" She waved at the dark eldo-plate.

Blord shook his head. He stood up and stared down at her, a savage smile crinkling his lips.

"Think of her," he said slowly, resonantly, "as one whose information might save your life IF we can think of some way to use it."

For a long time after that, the silence was complete.

The transfer to the invisible ship took place in midair over the restless gray waters of an inland sea. The pilot, Nicer, neither saw nor suspected the presence of a woman.

Clothed in a roomy invisibility suit, she slipped aboard the larger, more luxurious vessel while Blord talked rapidly to the pilot. Then he, too, walked aboard; instantly, the two ships withdrew from their lonely rendezvous, and plunged in opposite directions toward distant suns.

After an hour, Ellen Reith had still not appeared from her apartment, which she had found without assistance. She probably needed more sleep.

It was time he had some himself.

Blord set the automatics, and connected the alarms to his bedroom.

When he woke up eight hours later, the ship was still hurtling toward its remote objective.

Ellen Reith's door remained closed. But somebody had been in the kitchen, and neglected to put the dishes in the Beldex. Blord smiled, as the possibility struck him that she did not even know how to operate an automatic dish-washing machine.

It was a pretty tribute to civilization.

He ate thoughtfully, then examined the wire for messages. But there was nothing. He busied himself with some papers that Magrusson had thoughtfully piled high in a case labeled URGENT BUSINESS.

Blord smiled over the documents. Magrusson kept papers to be signed strategically spread throughout the Ridge Stars; there were special offices that, under radio supervision, did nothing but type original copies. As soon as any one of these was signed, all the other copies were destroyed, wherever they might be. The development of the system that fitted so beautifully in with his own casual character still made Blord glow with appreciation.

He sat down, and applied himself for five straight hours. He was aware once that the woman came out, and went to the kitchen, then disappeared into her suite without a word.

Finally weary himself, Blord dumped the still enormous pile of unsigned and unread documents into their case, and then put them out of his mind.

He ate his second meal, and there was still nothing on the wire. He took a sleeping tablet and went to bed. This time, when he awoke, there were three messages on the wire, all from Magrusson. Blord read them with the exhilarating consciousness that the period of inaction was about to end.

The first message read:

A special high-powered, heavily armored ship visited the derelict after nineteen hours. Fought running battle with three police ships, but finally escaped unscathed.

The second message said:

The police have issued a bulletin on the ravaged freighter *Crescent Moon*, stating that nine hundred seventy-four bodies were found, one of them that of a woman, who has been identified as Mrs. Gilmour-Morgan-Davis-Castlefield, heiress to the Reith multibillion fortune. The former Miss Reith was described as apparently having hid herself during the attack, but had afterward been frozen to death, as she evidently did not know how to close the air locks which had been left open by the marauders.

The third message said:

Nothing yet.

It didn't make sense until a thought struck him, and he glanced at the time of receipt registered on each message.

Blord smiled. The young lady might not be able to operate an automatic dish-washing machine, but she did know about wires. The only thing was she should have made a point of putting them back in proper time sequence.

A sound intruded upon his amusement. Behind him, Ellen Reith said in an intense voice:

"But who was the dead woman?"

Blord turned and stared at her. She had selected a very simple dark dress from the wardrobe which one of Magrusson's fantastically priced couturiers had supplied on the basis of eldophoned measurements; but the simpleness was an illusion of style.

Her cheeks glowed with skillfully applied color. Her lips were full and red, and parted to speak again. Before she could utter the words, however, Blord shrugged, said:

"It was really very simple. I have had need of bodies before; and accordingly, basic arrangements were actually made long ago with a big chain of undertakers. It was only a matter of finding among the tens of thousands of dead a body that approximated yours. Make-up experts did the rest. The body was rushed out to the *Crescent Moon* by a ship whose ownership cannot possibly be traced back to me. The pilot returned to where he came from, secretly informed the police, had all memory of the episode conditioned out of him; and he is now on a liner Earthbound for a year's holiday. He—"

He stopped—stopped because the woman was gazing at him with a strange expression.

"What's the matter?" Blord asked.

"You!" she breathed. "What kind of a man are you? You've thought of everything, everything. It's like a dream. It all happened so swiftly, yet you did everything instantaneously, and with such an exact skill that—"

She shook her head wonderingly, then slowly the intensity faded, she said anxiously:

"I'm safe now, am I?"

"Only if the Skal Thing has not been informed. However," he went on coolly, "I think we are now ready for the attack."

"Attack?"

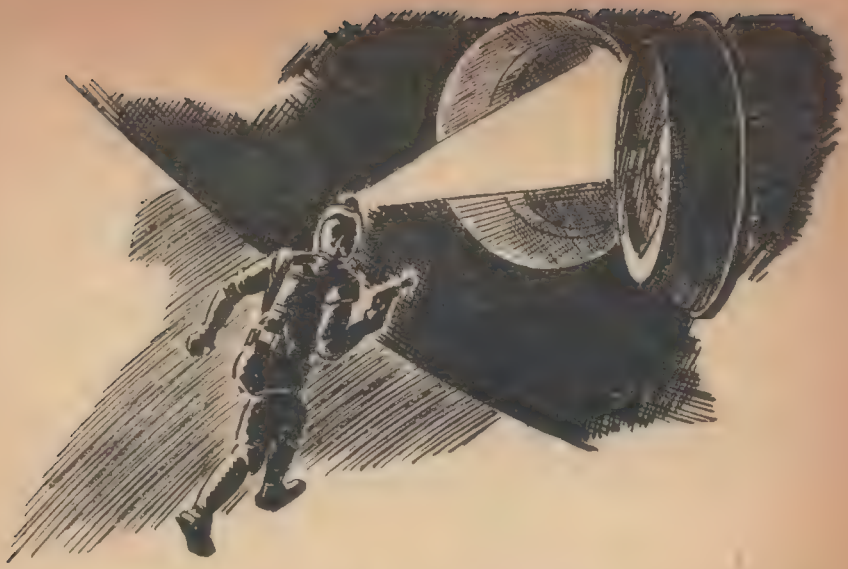
He nodded; said ferociously: "You don't think I'm going to let that bloody gang continue to operate unscathed?" He frowned. "What I really need against the Skal Thing is one of my hunches, but, until then, the gang is my meat. Now, listen, how much courage have you got?"

The Midnight Club occupied the peak of a high hill overlooking the city Negor, the vast city Negor, of Fasser III.

Blord edged the car toward the curb, motioned with his hand.

"Six years ago I stood on this hill and gazed down on a plain toward the dark glittering sea of Kallidee. A few tents, a couple of spaceships squatting on the ground unloading machinery, and the tiny figures of several thousand men looking like little scurrying rats—that was what I saw."

He leaned back, then smiled at Ellen Reith. "The city hasn't been built quite as I pictured it then. But the difference is my own fault. I have a horrible trait of character



which prevents me from taking an interest in the details of an operation once it's started. The result is other men with other dreams wove their patterns. But that's the glory of life in the Ridge Stars. Tens of millions of men burning with master designs for a vast future surge out here—and draw their pictures on the living canvas of the unbounded universe."

The woman's eyes were strange. "And the greatest painter of all is Artur Blord." She spoke softly, but her voice was resonant as she went on: "I've been your secretary for three days, and I'm only just beginning to realize how tremendous is the work you're doing."

She broke off: "That woman who gave you all that information about the attacks on the Skal Thing —she's one of your wives, isn't she? That child she mentioned was yours, wasn't he?"

Blord stared at her. "Are you crazy?" he said.

She shook her head; her eyes were pools of intense blue in the dim light from the instrument board.

"You can't fool me. And you've got more women out there, haven't you, who'd rather share one hundredth part of your life than have

the full-time attention of a whole score of lesser men?

"Wait!" She cut him off as he attempted to speak. "Don't deny it. You don't have to, not with me. Because it's right. You know in your heart and in your mind that those women have made no mistake. The universe is too big, too complicated, for little men's children. Each succeeding generation has to be quicker-minded, bolder, stronger. And the cycle must go on faster and faster, as man expands in his intricate fashion into ten billion other galaxies.

"Life can't wait for old moralities; and the mothers of the race have been the first to realize it. They come out here, innocent, stiff-minded but brave; and in a single leap of comprehension realize their destiny."

Blord was laughing gently. "All this," he marveled, "from a young lady who is going to marry a farmer and have ten kids."

Her laughter echoed his, but there was a note of scorn in it. "What a fool I was! For years I was like a moth, singeing myself in a fire I didn't understand, becoming more bewildered every time I got burned. A dozen times I thought of committing suicide, which only goes to show how tremendous were the forces of which I was so dimly aware. But now—"

She caught his arm. "Artur Blord," she said in a curious frenzy, "you must save me. I couldn't bear to die now. There's so much to do, so many things to experience."

Blord reached forward and placed his finger on her lips. "Careful!" he admonished. "That's the wrong attitude. Fear of death is the most dangerous of all phobias out here. One thing you've got to be prepared for is to die any minute. In fact—"

He drew back, stared at her coolly. "You've agreed to visit the Midnight Club with me. In spite of the fact that we're both disguised, the danger is great enough to place considerable strain on the nerves of anyone unaccustomed to such situations. Accordingly, unless you can convince me that—"

Her laughter, amused, unstrained, gently mocking, rippled across his words, and ended as she said earnestly:

"I wasn't thinking about myself. You must believe that. It's important that I live because . . . because of the things I must do. I don't know just how to describe that, but—"

Blord was shaking his head. "Never mind," he said gently. "Those things can't be described. You've told me what I want to know. Let's go. Remember, my name is Chris Delton, and you're Rita Kelly."

Soundlessly, the long car glided forward. A moment later, a club attendant was opening the door. The attendant climbed into the car, and drove it toward a parking place. Neither Blord nor the woman so much as glanced back.

One by one the glittering doors opened before them, and closed behind them. In three minutes they

were deep into the interior of the enormous mass of buildings that was the Midnight Club.

"I'm becoming bewildered," Ellen Reith whispered after an hour. "I've played games I didn't know existed, and I've made eight hundred thousand stellors. It's silly for me to be excited about such a small sum, but I can't get used to the idea of so much freedom. On Earth they don't—"

She broke off, confessed: "I feel like a child in a brand-new world, and in about two seconds I'm going to wake up."

Blord laughed. "Earth is trying to keep its population. Therefore, practically everything is illegal; there are no easy ways to make money. And while people are paid good wages, there's a clever method of making them spend their earnings so that only a small percentage of them can ever manage to break away.

"Gambling is bad only when losing might mean poverty or hunger. But that doesn't apply in this universe of high wages, cheap food and so many jobs that employers and would-be employers nearly go crazy outbidding each other for the services of newcomers.

"The human race has always had a sound emotional instinct as to what pleasures they want. For the first time in history the lust to build, to create and to enjoy can be experienced simultaneously, not by a few privileged, but by all."

"Then you approve of this club here?" Her eyes were wide.

Blord stared at her in surprise. "Why, of course." He smiled. "Don't forget you can lose that eight hundred thousand as quickly as you won it."

"I don't mean that. I mean the gang behind this club. Surely, you don't—"

Blord's gaze darkened. He frowned at her, said sharply: "Are you comparing the crimes of the Skal Thing and its henchmen with the will of a human being to enjoy himself where he pleases after his day's work is done? The former I shall destroy without mercy; the latter—well, when he is having a good time, so is God. That's my religion."

He stopped. He saw that the woman's eyes were intent on something behind him.

"That man!" she hissed. "The one who's talking to the group—he was aboard."

Blord said: "Turn back to your drink. Your eyes are too fixed and there's horror in them. Relax!"

She looked at him, and managed a wan smile. "Sorry," she said; then: "But hadn't you better get a look at him, so you won't forget his face?"

Blord shook his head, but he made no answer. And he sighed inwardly. He had made Ellen Reith his secretary because she had to be around anyway, and because she insisted on being useful. But it was obvious that she had yet to learn not to offer advice as to what

he ought to do—long after he had done it.

Blord smiled wryly. But basically he was not ashamed of the conceit behind that thought. She should have remembered that she had submitted herself to hypnotism. True, he had deliberately refrained from showing her the hypnotically remembered composite drawings she had made of the faces of several score of carefully selected men—carefully selected on the basis of her mental reaction to them, the instinctive hostility of that deeper brain that could read character at a glance or word. But he had withheld them from her for a purpose.

One of the drawings had been of the man whom she had now identified. A man whom Blord had been following for thirty minutes without pointing him out, in order that her final identification be untinged by suggestion of any kind.

He saw that the woman was staring at him keenly. She said quickly: "I've said something wrong? Is it possible that I've been moving along quite ignorantly into the very center of one of your intricate plots?"

Blord smiled. "It's possible," he admitted. "Now, here's what you do!" He explained briefly. "I admit this is pretty short notice, and it might put you in the deadliest danger. But if this fellow's mind has been conditioned at all, we've got to knock his brains loose, and freeze him while he's off his mental balance. As for not telling you, I didn't want to worry you in advance."

She was as white as a sheet, but after a moment she mustered a shaky smile.

"No wonder you can't keep a secretary—as a secretary. You drive them as hard as you drive yourself."

She shook herself, said: "Never mind. Start your fireworks. I'll take off my mask the moment you reach him."

Blord stood up. "That's the spirit."

Her smile mocked him as he started to turn. She said: "If this is what it takes to become a member of that harem of yours, I intend to pass with double-A honors."

"Don't be an idiot," said Blord rudely.

And walked off.

Out of the corner of his eye, Blord saw a dozen of his men casually stroll into position, encircling the table where Ellen Reith remained. Others, including some of his women agents, formed in little groups outside the inner circle, creating a second and stronger ring of defense around her.

It was the most he could do for her. He put her out of his mind.

The man she had identified leaned confidently against the crystal bar, talking animatedly to five of Blord's agents. As Blord came up, the fellow skillfully included him in the conversation:

"I was just telling these gentlemen," he confided, "about my recent

visit to the Castle of Pleasure. The Skal Thing has a brand-new bunch of women up there. It's a little expensive, but you'll never regret a single stellor of it—"

It was at that point that Blord stepped up to the panderer, and said in an undertone:

"Cut it, fellow! And take a look at the woman at that table over there. The boss wants to know whether you know her."

"Huh!" ejaculated the man. "You're not one of u—"

He stopped. Involuntarily, he turned to look. The color drained from his cheeks.

"But she's dead!" he gasped. "The police said—"

He stopped again. But this time it was involuntary, as Blord pressed the activator of a very curious instrument. An instrument which, when synchronized with its recorder, strapped to the body of Blord's assistant, who had taken up a position behind the victim, smashed the intervening brain in such a manner as to shatter its moral, intellectual and emotional continuity.

The energy poured up a million nerve paths, and, like a solvent, loosened thoughts, shocked through areas of resistance and, with particular violence, flushed everything that connected with the idea forms that had been in the mind at the moment it was applied.

Its effect was cumulative, and the peak body of confession would not begin to pour forth until some two hours after the dose of energy was taken.

After that its potency declined rapidly. Though basically harmless, its manufacture was a government monopoly, and its private use prohibited under severe penalty.

It was one of the hundreds of expensive devices Blord had gathered into what, for want of a better name, he called his co-ordination department.

With a bland conviction Blord believed that, while there were millions of people who knew how one or a few of the thousands of devices worked, only he, who knew little of the details of construction, had ever co-ordinated so many inventions to a single pattern of action evolving out of one brain.

Blord said now, coolly: "Let's go out into the garden, and you can tell me the details!"

A brain that could only acquiesce to every suggestion had no resistance to that. But Blord had to hold the man's elbow to keep him from staggering like a drunken man.

They reached the terrace, and walked to the dark end of the garden below, where the first of the two invisible ships waited. It rose the moment Blord and his prisoner entered.

Blord verified that the second ship was on the point of landing in the garden, then forgot about it. Two hours later, he emerged, smiling with satisfaction, from the lab.

"So," he said to Doc Gregg, "the master minds hold a meeting every two months in the Midnight Club,

and the next meeting is scheduled for two weeks from tonight."

He finished: "Where's Miss Reith? I want to give some dictation."

"Hasn't come in yet."

"When she comes," Blord began, "tell her—"

His voice trickled into silence. He had been lowering himself into the chair before his desk. Now, he straightened.

"WHAT?" he yelled.

The eldophone on his desk flickered with the blue light of an interstellar call. Blord waved vaguely at the thing.

"Answer it," he muttered. He walked over to a window, whispered huskily: "I ought to be shot, stacking myself against the Skal Thing."

He found himself listening with puzzled attention to what Doc Gregg was saying into the eldophone; then, with a swift movement, he walked over and took the instrument from Doc's extended hand. Savagely, he said into the mouthpiece:

"You can't fool me. The Skal Thing is incapable of human speech."

A second later, he knew better.

There was a chuckle from the earphone that brought a grisly chill tingling down his spine. The crazy part was that the sound was exactly similar to the mind-chuckle that he had experienced on the one occasion that the monstrous scale-armored lizard had peered into his brain.

The chuckle ended, and a ghastly-toned voice said:

"For such calls as this, Artur Blord, I use an instrument which translates thoughts into language. After all, there is a very compact, similar instrument in existence in your head. Would you doubt that I am incapable of solving the comparatively simple mechanical problems involved?"

He doubted nothing. The whole thing was as clear as clear could be. The question that remained was: How had the Skal Thing found out? And why was it calling now?

Blord said jerkily: "Get to the point."

The chilling chuckle came again: "Is it possible, Mr. Blord, that my high regard for you is not reciprocated? I have watched with admiration your remarkable efforts to conceal the fact that Ellen Reith was alive. I can say frankly and honestly that I couldn't have done better myself under similar circumstances."

"Look!" Blord began, but the voice went on insistently, ignoring the interruption:

"To begin with, my investigation was of a routine nature. I was interested in the identity of all ships and pilots known to be within several star distances of the derelict. I was interested in discovering how the fingerprints of the dead woman's body compared with those of Ellen Reith. Naturally, these and similar inquiries took a little time, but not too long, not too long, Mr. Blord.

"I refused, as you would no doubt have done in my position, to accept

the apparent picture as evidence, and so by the end of the third sidereal day—"

Blord said in a flat voice: "What have you done with her and my agents? What do you want?"

The answer was a soft blare of hideous amusement, then the inhuman voice came again:

"How impatient we are! But very well, I will be brief. My victory, as you must realize, is sharply qualified. I am in the very peculiar position of having to maintain my prestige among a curious type of human being. The rascals who serve me must believe that I am capable of protecting them under all circumstances, collectively and individually. Otherwise, my organization might disintegrate.

"It was not a part of my plan that you remove one of my active henchmen from the Midnight Club, and I am still puzzled as to how you actually did it.

"You must release this man at once."

"And?"

"I will in return release Miss Reith and your agents."

Blord waited. After a moment there was still silence. A faint perspiration moistened his lean face. He licked his lips.

"Is that all?" he asked finally. "Where's the catch?"

"No catch."

Blord exploded in a blank amazement: "You're going to release some fifty men and women and a spaceship in return for one cheap Jack?"

"You have my word of honor."

Blord parted his lips, then closed them again. Quite instinctively his fingers jiggled the eldoplate adjuster, but the darkness of the plate merely shifted like a black cloud at night; no visualization came. A thought struck finally into his otherwise blank brain. He said:

"I get it. That favor you promised to do for me a few months ago. This is it."

"M-i-s-t-e-r Blord!" There was anger and reproach in the Skal's tone. "Do you really believe that I would stoop to kidnaping your friends, and then releasing them in order to cancel a promise I made you?"

The voice grew strangely, metallically menacing: "I am depending entirely upon your unsurpassable sense of logic."

At last Blord accepted. The astounding thing was that he had held out so long, sitting here like a log of wood, his mind in a plantlike state.

Suddenly, it was as obvious as the difference between night and day. The Skal Thing was like *this*. Human measuring sticks didn't apply to it. A slimy fifty-foot lizard that murdered men and made white slaves of women was no more a criminal than a man who killed or bred lizards.

Except that the thing must be exterminated like some poisonous snake.

"But now," the Skal was rasping, "enough of this. You have until tomorrow noon to make up your mind. Good-by, my admirable friend. You

have not been very bright tonight, but I imagine the lady had something to do with that. She will make you an ideal secretary."

There was a gross chuckle followed by a click.

The council of war was not going very well. Blord sat in the chair before his desk, sunk in gloom. Magrusson, portly, thick-cheeked, newly arrived from Delfi II, occupied the enormous easy-chair to Blord's left. A slim yet powerful-looking young man with cold, thoughtful gray eyes stood chain smoking, back pressed against the jamb of the door facing Blord. Doc Gregg lounged on the window sill.

From the secretary's chair at Blord's right, Ellen Reith said:

"But what did the Skal mean about depending on your sense of logic?"

Blord did not answer, nor did anyone else break the silence that slid in hard upon her words. He felt no annoyance at a question that had so obvious an answer. In fact—

After his own exhibition of men-

tal aridity while the Skal was talking the night before, it might be a good idea to adjust his entire conception of stupidity.

He smiled bleakly, then he noted, pleased, that she seemed not the least put out by the fact that she had been snubbed. She sat slim, chic, self-possessed, and she went on after a moment coolly:

"If the Skal Thing is going to be foolish enough to release fifty people in exchange for one, that is *its* weakness, not ours. We must simply take care to enter no more of its strongholds, and carry on as if nothing has intervened. After all, it only acts through men, who cannot possibly be as clever as Mr. Blord."

Blord directed a wan grin in her direction. "The brain we're fighting is not human. Frankly, I cannot imagine how to outthink the Skal Thing that won't believe anything until it has applied its own brand of tensor logic."

He groaned: "It's the old story. I swore when I first came out to the Ridge Stars that I wouldn't enter the reforming business; yet here I've been trying to lift the universe on my shoulders.

"Every day a million major crimes are committed in the Ridge Stars. For an individual to do anything about that is like trying to visit one millionth of the suns in the galaxy during a lifetime. On top of that, Magrusson will tell you that I'm losing ten million or more stellors every day I ignore my own business."

He finished with a rush of gloom. "And *I've* got to get myself mixed up with the impregnable, undefeatable Skal."

The plump man was nodding. "Now, you're talking sense, boss. Look, I've brought along a shipload of important documents. It'll take you a month to read them, let alone O. K. them. How about forgetting this Skal business, and starting in on them—now?"

Blord said: "What do you think, Cantlin?"

The lean, gray-eyed man shrugged. "I got a shock when you first told me what we were up against."

He fell silent; and Blord turned, said: "And you, Miss Reith?"

She was, he saw, frowning. She glanced up and stared at him with puzzled, appraising eyes. She said slowly:

"I'd still like to know what the Skal meant about your sense of logic."

"It was warning me," Blord explained quietly, "not to bother its men again until I had eliminated it. In other words, it challenged me directly, a challenge which it confidently believes I will not dare accept."

Her gaze studied him the whole while he spoke; when he had finished, she smiled enigmatically, and said simply:

"Give it up!"

"Done!" said Blord. He leaped to his feet. "Cantlin!"

The iron-faced young man straightened with a casual movement. Blord rattled on:

"Pay all your agents one thousand stellors bonus, and yourself twenty-five thousand. Keep them all in town just in case we've got to defend ourselves. Except for that, forget the Skal and its whole crew."

"Right, Mr. Blord! I'll be seeing you."

Cantlin opened the door, sauntered out. When the far door of the secretary's office had closed behind him, Ellen Reith said:

"So that's what all this melodramatic groaning has been about! When did you first discover that Cantlin had betrayed us?"

"Huh?" gasped Magrusson. "What's all this?"

Blord flashed him a bleak smile. "My old trouble with ambitious young men who want to set up as operators on their own. Only he and I and Miss Reith knew in advance that we were going to the Midnight Club. Yesterday, one of the big banks received a deposit of twenty million stellors, under one of Cantlin's pseudonyms that he didn't know I knew about.

"I hope we fooled him. The Skal made rather valiant efforts to convince me it was omnipotent. Part of its stock in trade, you know, is the superstitious awe with which people regard it.

"You mean," Magrusson said, "you're going on with—"

Blord made no reply. He was lifting the receiver of the interoffice phone. A young woman's face flashed onto the plate. As she saw who it was, her eyes lighted. She said swiftly:

"I've checked every one of your main eldo and local phones connecting to the labs on the planets you named, Artur. If there were ever tracers on them, it was done with a skill we can't handle. I would say, however, that, barring supersuper-science, you can safely load the ether with secret calls."

"Thanks, Joan. It was just a check-up. 'By for now."

He clicked off; and his smile was cooler now, with a quality in it of a tiger that has fed well. To Ellen Reith he said with a sardonic drawl:

"For your information, Miss Reith, the lady to whom I just talked is a physicist who has three children, none of whom resemble me."

The inner door opened. Ellen Reith looked up from her desk. Two men emerged from Blord's private office carrying a chest. From inside the room a burst of Blord's laughter rippled. Laughter so elfish and gleeful and open-hearted that she found herself smiling in sympathy. The smile faded as the portly figure of Magrusson came into view.

His face was wreathed in gloom. He closed the door, and stood staring mournfully at the girl. Finally, he shook his head and moaned:

"He's crazy! If there was any justice, he'd lose everything he owned. Did you see that chest?"

He motioned vaguely at the door, where the two men had disappeared.

"Documents relating to ninety

million stellors' worth of business. And do you know what he's been doing about them the last week?"

Ellen Reith held her peace. She knew very well, not that she didn't sympathize with the tubby business manager. Magrusson was quivering afresh, as if the picture he had drawn had jogged a whole set of new nerves into motion.

"Nothing! That's what he's been doing. And now he's just scrawled a note, authorizing me to handle it routine fashion—without looking at any of it, mind you, without knowing what a single sheet is about.

"I shall," said Magrusson with a sudden firmness, "I shall commit suicide if this goes on much longer. But of course, I forgot"—he drew back, looked at her accusingly—"you agree with him, don't you?"

The young woman returned his stare with a serene gaze. She said in a clear, cool voice:

"The trouble with you solid businessmen is you don't recognize genius when you see it." Her voice took on a scathing note: "What do a few million stellors matter? He can't possibly spend all the money he's already made."

Magrusson snarled: "You can talk. Born with a hundred bankfuls of the stuff yourself."

He paused, glared at her. "You're like all the rest of these women around here. The great god can do no wrong. When I think of those women physicists over in a dozen labs on as many planets driving themselves and their assistants—do you know that most of them are *not even* going home to sleep?—it makes me wonder what the universe is coming to."

His plump arm came up in a trembling gesture, as he motioned at the door through which he had just come. His voice shook:

"Do you know what he's doing in there now? Firing guns! Hundreds of guns! He's torn down one of the walls, built models of a spaceship and the Castle of Pleasure, and he's alternately firing from one at the other—

"But of course you know!" His voice drooped, then rose: "You've been here aiding and abetting him in this crazy scheme to destroy the Skal Thing. Miss Reith"—pleadingly—"if you have any regard for Artur, and any influence over him, try to make him change his mind.

"The Skal Thing has killed some very bright young men in its time. It's merciless. It doesn't even know the meaning of pity. In its curious way, it sometimes enjoys playing cat and mouse with the careers of individuals, taking a sardonic and inhuman joy in leading on its victims. Then in a hellish amusement, it pushes them down into a specially prepared abyss."

The vivid word picture struck home. In spite of herself, Ellen felt a coldness. She saw that Magrusson had noticed her troubled expression. He gave her a swift, thoughtful look, then pressed on in a more persuasive voice:

"You're a woman of the world, Miss Reith. You know that even

Artur Blord must have his limitations. I admit he's a fabulously gifted man. I don't suppose his like is born more than once or twice a century. But this is a wild thing he's let himself go on. Usually, long before this stage of one of his schemes, he has a working plan, something concrete.

"He admitted to me just now that he's not trying to develop a new weapon; and besides it's ridiculous. Not even Artur Blord can call radically new energy guns into existence merely by assigning the problem to a bunch of admiring women.

"For once he's overreached himself, and it's up to his friends to save him from himself. You're just the type of woman he'll listen to. I mean, not one of these fools who sit starry-eyed when he so much as breezes through the room. In my opinion, you will be his first permanent secretary. But it's no good being secretary to a dead man, is it?"

"No!" said Ellen Reith sweetly.

Magrusson parted his lips eagerly to go on; and then the faint ironic expression on her face must have warned him that the single word was answer, not to his question, but to his entire appeal.

His face darkened. He straightened heavily, then raved:

"Like all the rest, that's what you are. You—"

His voice collapsed, as the door to Blord's office burst open, and Blord came racing out.

"Got it!" he shouted. "The lab just phoned in. They've got the method, Ellen."

He seemed to see Magrusson for the first time. "You still here?" he growled. "Never mind; you're just the man I want to see. Find me someone whom I can send to the Skal, a man who will deliver a message."

"A message!" Magrusson's voice sounded weak.

"The message is to tell the Skal that I want it to destroy a spaceship that will approach the Castle of Pleasure at 008 sidereal hours six days from now, next Saturday. Tell it *that this is the favor* it promised me a few months ago. Got that?"

"Yes, but—"

The young woman's voice cut off Magrusson's bewildered mumbling. She cried: "But who's going to be in the ship?"

"I am," said Artur Blord coolly. He went on blandly: "The Skal Thing is going to do me a favor and destroy itself."

Magrusson moaned, and went out waving his hands high in the air, mumbling disjointed fragments of words about insanity.

Blord began to feel tense.

The ship was in the umbra of Delfi I now, approaching the mountain of Eternal Night. He was still too far away to make out the darker outlines of that strange and antique building, the Castle of Pleasure.

But it wouldn't be long. Blord thought, and felt a chill.

The clock on the dimmed instrument board showed seven minutes to eight; and at eight o'clock, the

Skal had promised his messenger, it would—

A sound very near and behind his chair snapped the taut thought. Blord jumped, then twisted around. For a moment, he sat very still. Then he said in a flat voice:

"You fool! What are you trying to do—get yourself killed?"

A tinge of natural pink heightened the delicate coloring on Ellen Reith's cheeks. She stood there, biting her lips. Her eyes were very wide open, very blue; and the faintest mist blurred them. She said finally:

"I didn't intend to come out of hiding until—after. But there's a curious mind pressure in the air; I know it's not from inside my head. It's mechanical, like energy waves that have found the wave length of my brain. You told me that the Skal Thing could read minds and—"

She stopped because she must have seen the look that came into his face even before he spoke.

"Back!" he said sharply. "Get into the armored bulkhead, quick! I *feel* the Skal."

She sat down in one of the chairs behind him. She was very white suddenly, but she shook her head.

"You don't understand," she said quietly. "I came aboard because if you were killed, I can't even imagine what I would do." She finished hurriedly: "Now, please, pay no more attention to me."

Even if he had wanted, there wasn't time. The ship was reeling to a halt in the very shadow of the dark castle—and something was groping at his mind.

Something—a visualization of a long, scaly, reptile body—slithered into his brain. Unutterably slimy it was. Every nerve in his body recoiled, and he had to fight a sense of mingled horror and disgust.

The mind laughed with a glee that had no human counterpart; and though familiarity did not lessen the sensation of obscene presence, the touch became bearable. It became a thought:

"So, Artur Blord, we meet again. Did you really think to fool me, *me?*"

There was a burst of mind-laughter that had no amusement in it. A savage, steely laughter it was, that ended in a rasp of violent thought:

"For the presumption you have shown, Artur Blord, you die tonight. I will see to it that the favor you requested shall be given you in the exact measure that you asked it: The destruction of your ship with all its contents at 008 sidereal hours shall be accomplished, in spite of the police ships that you have persuaded to follow you on the rash promise that you would destroy my ancient Castle.

"But have patience for one moment while I discover in your mind the nature of your plan; and then—death."

There was silence, and a distinct sense of the fantastic mind pushing at his brain. Finally, Artur Blord began to laugh softly.

"You are, I hope," he inquired

solicitously, "reading my mind? Exploring the nature of my plan? Devising means to combat it?"

"Or perhaps," Blord said, "you are discovering that my mind is impenetrable.

"Just a simple little device," he explained modestly, "that one of my . . . er . . . wives, as Miss Reith would say, rigged up. A machine that matches the wave length of the brain's nervous energy, and confuses all except the strongest surface thoughts.

"Nothing new about it, mind you. Discovered quite a few thousand years ago, but the inventor at the time said: 'So what!' If you've ever been in my co-ordination department, Skal, you'd know that it contains all kinds of similarly useless and almost forgotten devices for aiding and abetting the exploits of Artur Blord.

"But it's time for action. A pity to have to destroy such an ancient structure as your castle. I regret I must terminate our interesting conversation."

He taunted: "You haven't been very bright tonight, my admirable friend. Is it possible that you, too, are beginning to believe Artur Blord never makes a public move until he knows that victory is certain?"

The answer was a mind snarl, a thought so alien and ferocious that, in spite of himself, Blord felt a thrill of pure fright. The Skal's thought blazed:

"When in doubt, I use my invincible weapons without delay, weapons that in the past have destroyed ships like yours in one instantaneous burst of fire. I am sure that you have not in a single fortnight discovered a super metal or a super energy blaster with which to defeat me. Good-by, Artur Blord."

With a physical jerk of movement, Blord twisted toward the intricate control board. Straight at the scores of silhouetted dark towers that pierced the dark sky like great swords, he aimed his pointer device. He was still aiming when enormous green flashes surged from every spire of that multi-turreted building of a forgotten race.

From stem to stern, his ship flared, like an emerald suddenly subjected to an intolerable light.

Bright were the myriad lights of Negor, and dark the sea of Kallidee, a gem city on the shores of a restless sea; and the brightest diadem in all that crown of jewel lights was the Midnight Club, with its ninety entrances on the famous Blord Crescent Drive.

Outwardly, all was brilliance; every gaming room was packed with players, every cocktail room had its swarms of well-dressed men and women. But deep inside the massive array of buildings that was the Club, half a hundred masked men gathered in a great, dim, ornamented chamber, and sat complacently listening to one of their number.

"As you know," the speaker was saying, "this is the night when *the* Artur Blord intended to destroy our

invincible benefactor and patron saint, the Skal Thing—"

Cheers and laughter interrupted him. He waved his hand; and, on being granted silence, went on:

"In view of the fact that one of our"—his tone grew ironic—"more recent members informed the Skal six days ago that Blord would be in the ship which, for some curious reason, he wanted the Skal to destroy, and also because it is now long after midnight—"

His voice trailed curiously. His eyes behind their mask slits widened. Doors were opening all over the hall, and men were surging through, men with long, silver shining mobile units in their hands. Simultaneously, the large room lit up bright as day. A voice that had in it the hardness of iron said:

"Anybody that so much as moves *gets* it! Search them."

Nobody moved. In five minutes a stack of hand weapons attested to the thoroughness of the search.

"O. K., boss. Stage is set."

Artur Blord, followed by Ellen Reith, entered the room. The odd thing was that, for a moment, she and not Blord was the center of all eyes. She wore a gorgeous Sanarada fur jacket that contrasted so vividly with her red-gold hair that her great natural beauty figuratively leaped ahead of her. And then—

Blord said: "Thanks, Cantlin. I'll make it brief."

He raised his voice to a grim resonance: "Gentlemen, you have a choice between death and poverty. There are no other alternatives. It's your money or your life, and this time for your special benefit I'm discarding my policy of taking twenty-five percent of the profits. This time I want an even hundred percent.

"Well, perhaps not a hundred—ninety-eight will do. I have in mind a certain very foolish member of this gathering."

His voice changed, grew mocking: "Come, come, now, my murderous gentlemen, here's your chance for life. Sign over all your ill-got earnings, and I'll simply turn you over to the Fasser government for trial. You can all in your own minds estimate what chance there is of a conviction being made against you in a court of law.

"But the price for that privilege is high, you scum, high—everything you own. I have a lovely machine which makes people tell the truth

about such things as secret bank accounts; so there's no escape at all."

"This is an outrage!" It was the man who had been speaking at the moment when the meeting was interrupted minutes before.

He was about to go on, when Blord shot him dead. Ellen Reith uttered an audible gasp, but Blord paid her no attention.

"Come, come," his voice came like a steel bar. "No delay, please. I assure you I have no patience with the bloody hounds who supplied the Skal with women. Ah, as I thought, the object lesson was helpful. Step right into this room, one by one.

"No doubt," he went on in that terrible, *mocking* fashion, "no doubt you can make more money in time. There are other games requiring crafty minds and cold hearts—provided, of course, you escape the long arm of the law— No, fatty, you don't have to go in. I've got special plans for you. This way, please."

The man indicated stepped out of line. His eyes through his mask slits looked glassy, but he said nothing, just stood there beside Ellen Reith staring down at the handcuffs that two of Blord's agents snapped decisively on his wrists.

Ellen Reith looked at him in appalled recognition. "Mr. Magrusson!" she gasped. *"You!"*

The plump man groaned: "It's Blord's fault—refusing for weeks on end to look at important papers—the opportunity proved too much for me. It was I who made the ten million stellors a day Blord lost at such times.

"Skal Thing found out somehow, and threatened to expose me if I didn't do as it wanted. That was about two weeks ago. I was too scared to resist."

He sighed: "So here I am, like all the fools who have ever stacked up against Blord. What I can't understand is, what's Cantlin doing here? I know for a fact that he sold out to the Skal."

Ellen Reith did not answer immediately. A lot of things were clearer, and the main one was that doing business in the Ridge Stars must be very complicated.

She said finally: "I can only imagine Artur bribed Cantlin to come back into his service."

"What about the castle; has he really destroyed it?"

Ellen nodded; Magrusson pressed on, puzzled:

"But how?"

"That," said Ellen Reith, "is a question I have yet to ask myself. So far as I could see, we never fired a shot, but suddenly the castle began to crumble like a house of cards. Artur expects the Skal to get away, but we didn't wait. The police are in the castle; they've already captured some of the Skal's weapons. The castle is definitely conquered—but how, I don't know."

Blord laughed at the flood of questions that came later as they sat eating breakfast in the skyscraper penthouse apartment that was his headquarters.

"I'll make my answers one at a time," he smiled finally. "Magrusson I'm taking back into the firm. He's had a sharp lesson, and actually he's too old to become an operator on his own, and he knows it.

"Besides, what the Skal got out of his mind must have puzzled it no end. Unwittingly, Magrusson was a great help to me.

"Cantlin—I've got a tremendous project starting up on the newly discovered planet, Deg III, and I've offered him a seventy-five-percent share to run it for me. It'll need a man of blade steel and, just to toughen him up even more, I let him carry out the executions last night."

"You let him *what?*"

"You don't think," he said from between clenched teeth, "I'd let that crew stay alive, particularly in view of the fact that there was no real evidence again them, *particularly* since the Skal, as I anticipated, made a clean getaway."

"But—you promised."

"I'm like that," Blord said lightly. "The value of my word varies as the square of the character of the person to whom it is made."

She was silent; then slowly: "You're a terrible man; I only began to realize how terrible yesterday. But go on."

"That," said Blord, "finishes everything but the castle. The answer there is: mirrors; my marvelous physicists rigged up energy mirrors for me on an old radio beam principle."

He went on with a genuine gleeful enjoyment of his own astuteness:

"I told both you and Magrusson that the Skal would be defeated when it did for me the favor it had promised me. That's exactly what happened.

"The mirrors on the ship didn't last more than a second in that green blast. But neither did the castle walls or the guns behind them when they received the reflected blow." Blord shuddered. "What inconceivable fire power! It's a wonder we weren't both killed. We—"

He stopped as a phone in the next room shrilled the high-pitched squeal of an interstellar call. The sound ended as Blord came into vision range, changed to an intense blue flicker, that ended in its turn as he lifted the receiver.

"Artur Blord speaking!"

Before he could say anything more, a nightmare voice chuckled sardonically:

"You are even more clever," the Skal Thing said, "than I believed. However, I assure you I hold no grudges. If we meet again, I shall judge my actions by the requirements of the moment. Good-by, my brilliant one, and good luck."

Click! When he had told her the gist, Ellen Reith said slowly: "Do you believe that it actually holds no grudge?"

Artur Blord laughed softly. "The important thing is, the Castle of Pleasure is permanently out of business. I think I'll just leave it at that."

Which he did.

THE END.

IN TIMES TO COME

If you define "two" as we do, then two plus two must equal a something defined as we define "four," whether you're a man, a Martian, or a Qwerty from Asdfgh-Zxcvb. That's evident and necessary—mathematical concepts must be fundamental and identical everywhere. There's Euclidian and non-Euclidian geometry of course—but actually, the Euclidian type is one limiting case, a flat-space case, of the general study; its concepts will be necessary in any complete geometry developed anywhere.

Now offhand, it would seem that, in a similar way, engineering principles here, on Mars or on Asdfgh-Zxcvb would have to be the same, too. Hal Clement has something to say on that score in "Technical Error" next month—something that runs along this line. The broad, basic principles will, of course, be identical; a sodium atom behaves like an atom of Na here or in the Greater Magellenic Cloud. But there is room for infinite variety and ingenuity in details of mechanism for applying those principles. In "Technical Error," Clement presents a spaceship designed by totally alien minds working on completely alien engineering methods. I recommend for particular attention the choice item of bolts with eliptical cross-section. You try figuring out how to turn an oval object in a close-fitting oval hole!

THE EDITOR.

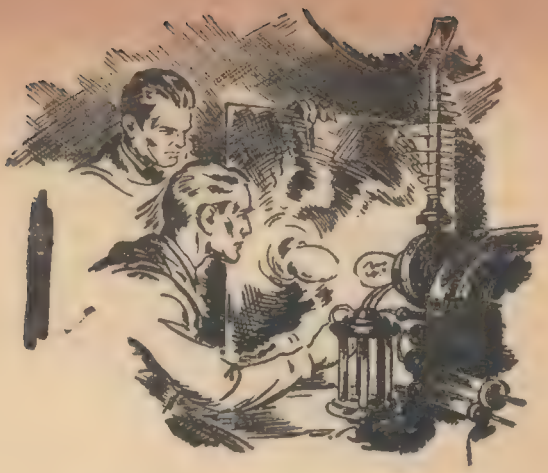
THE ANALYTICAL LABORATORY

The little note that, these lab reports being based on readers' letters, such letters were wanted, seems to have brought response. Thankee kindly; we need them and like them. It's a physical impossibility to answer all, or print all. (The latter also runs into an economic difficulty; the post office insists that Brass Tacks is advertising matter, and taxes it as such. Believe it or not, it costs more to print those free letters than to print an equal amount of purchased editorial material.) I am going to try to expand Brass Tacks, none the less; the trouble at present is that we haven't yet gotten the knack of guesstimating accurately how much space a story will take in the new-size issues.

The votes cast on the October issue, however, are the point in hand. They indicate that odds of 50,000,000 to 1 win—fifty million monkeys win out over one storm, that is. The scores stand:

Place	*Story*	*Author*	*Points*
1.	Fifty Million Monkeys	Raymond F. Jones	1.85
2.	The Storm	A. E. van Vogt	2.35
3.	The Proud Robot	Lewis Padgett	2.70
4.	Symbiotica	Eric F. Russell	3.62
5.	Paradox Lost	Frederic Brown	4.45

THE EDITOR.



Lost Art

by George O. Smith

***The** vanished Martians had left a tube and a complete instruction manual behind. Complete, that is, if you already knew all about using that strange tube!*

Illustrated by Orban

Sargon of Akkad was holding court in all of his splendor in the Mesopotamia area, which he thought to be the center of the Universe. The stars to him were but holes in a black bowl which he called the sky. They were beautiful then, as they are now, but he thought that they were put there for his edification only; for was he not the ruler of Akkadia?

After Sargon of Akkad, there would come sixty centuries of climbing before men reached the stars and found not only that there had been men upon them, but that a civilization on Mars had reached its peak four thousand years before Christ and was now but a memory and a wealth of pictographs that adorned the semipreserved Temples of Canalopsis.

And sixty centuries after, the men of Terra wondered about the ideo-

graphs and solved them sufficiently to piece together the wonders of the long-dead Martian Civilization.

Sargon of Akkad did not know that the stars that he beheld carried on them wonders his mind would not, could not, accept.

Altas, the Martian, smiled tolerantly at his son. The young man boasted on until Altas said: "So you have memorized the contents of my manual? Good, Than, for I am growing old and I would be pleased to have my son fill my shoes. Come into the workshop that I may pass upon your proficiency."

Altas led Than to the laboratory that stood at the foot of the great tower of steel; Altas removed from a cabinet a replacement element from the great beam above their heads, and said: "Than, show me how to hook this up!"

Than's eyes glowed. From other cabinets he took small auxiliary parts. From hooks upon the wall, Than took lengths of wire. Working with a brilliant deftness that was his heritage as a Martian, Than spent an hour attaching the complicated circuits. After he was finished, Than stepped back and said: "There—and believe it or not, this is the first time you have permitted me to work with one of the beam elements."

"You have done well," said Altas with that same cryptic smile. "But now we shall see. The main question is: Does it work?"

"Naturally," said Than in youthful pride. "Is it not hooked up exactly as your manual says? It will work."

"We shall see," repeated Altas. "We shall see."

Barney Carroll and James Baler cut through the thin air of Mars in a driver-wing flier at a terrific rate of speed. It was the only kind of flier that would work on Mars with any degree of safety since it depended upon the support of its drivers rather than the wing surface. They were hitting it up at almost a thousand miles per hour on their way from Canalopsis to Lincoln Head; their trip would take an hour and a half.

As they passed over the red sand of Mars, endlessly it seemed, a glint of metal caught Barney's eye, and he shouted.

"What's the matter, Barney?" asked Jim.

"Roll her over and run back a mile or so," said Barney. "I saw something down there that didn't belong in this desert."

Jim snapped the plane around in a sharp loop that nearly took their heads off, and they ran back along their course.

"Yop," called Barney, "there she is!"

"What?"

"See that glint of shiny metal? That doesn't belong in this mess of erosion. Might be a crash."

"Hold tight," laughed Jim. "We're going down."

They did. Jim's piloting had all of the aspects of a daredevil racing pilot's, and Barney was used to it.

Jim snapped the nose of the little flier down and they power-dived to within a few yards of the sand before he set the plane on its tail and skidded flatwise to kill speed. He leveled off, and the flier came screaming in for a perfect landing not many feet from the glinting object.

"This is no crash," said Baler. "This looks like the remains of an air-lane beacon of some sort."

"Does it? Not like any I've ever seen. It reminds me more of some of the gadgets they find here and there—the remnants of the Ancients. They used to build junk like this."

"Hook up the sand-blower," suggested Jim Baler. "We'll clear some of this rubble away and see what she really looks like. Can't see much more than what looks like a high-powered searchlight."

Barney hauled equipment out of the flier and hitched it to a small motor in the plane. The blower created a small storm for an hour or so, its blast directed by suit-clad Barney Carroll. Working with experience gained in uncovering the remains of a dozen dead and buried cities, Barney cleared the shifting sand from the remains of the tower.

The head was there, preserved by the dry sand. Thirty feet below the platform, the slender tower was broken off. No delving could find the lower portion.

"This is quite a find," said Jim. "Looks like some of the carvings on the Temple of Science at Canalopsis—that little house on the top of the spire with the three-foot runway around it; then this dingbat perched on top of the roof. Never did figure out what it was for."

"We don't know whether the Martians' eyes responded as ours do," suggested Barney. "This might be a searchlight that puts out with Martian visible spectrum. If they saw with infrared, they wouldn't be using Terran fluorescent lighting. If they saw with long heat frequencies, they wouldn't waste power with even a tungsten filament light, but would have invented something that cooked its most energy in the visible spectrum, just as we have in the last couple of hundred years."

"That's just a guess, of course."

"Naturally," said Barney. "Here, I've got the door cracked. Let's be the first people in this place for six thousand years Terran. Take it easy, this floor is at an angle of thirty degrees."

"I won't slide. G'wan in. I'm your shadow."

They entered the thirty-foot circular room and snapped on their torches. There was a bench that ran almost around the entire room. It was empty save for a few scraps of metal and a Martian book of several hundred metal pages.

"Nuts," said Barney, "we would have to find a thing like this but empty. That's our luck. What's the book, Jim?"

"Some sort of text, I'd say. Full of diagrams and what seems to be mathematics. Hard to tell, of

course, but we've established the fact that mathematics is universal, though the characters can not possibly be."

"Any chance of deciphering it?" asked Barney.

"Let's get back in the flier and try. I'm in no particular hurry."

"Nor am I. I don't care whether we get to Lincoln Head tonight or the middle of next week."

"Now let's see that volume of diagrams," he said as soon as they were established in the flier.

Jim passed the book over, and Barney opened the book to the first page. "If we never find anything else," he said, "this will make us famous. I am now holding the first complete volume of Martian literature that anyone has ever seen. The darned thing is absolutely complete, from cover to cover!"

"That's a find," agreed Jim. "Now go ahead and transliterate it —you're the expert on Martian pictographs."

For an hour, Barney scanned the pages of the volume. He made copious notes on sheets of paper which he inserted between the metal leaves of the book. At the end of that time, during which Jim Baler had been inspecting the searchlight-thing on the top of the little house, he called to his friend, and Jim entered the flier lugging the thing on his shoulders.

"What'cha got?" he grinned. "I brought this along. Nothing else in that shack, so we're complete except for the remnants of some very badly corroded cable that ran from this thing to a flapping end down where the tower was broken."

Barney smiled and blinked. It was strange to see this big man working studiously over a book; Barney Carroll should have been leading a horde of Venusian engineers through the Palanortis country instead of delving into the artifacts of a dead civilization.

"I think that this thing is a sort of engineer's handbook," he said. "In the front there is a section devoted to mathematical tables. You know, a table of logs to the base twelve which is because the Martians had six fingers on each hand. There is what seems to be a table of definite integrals—at least if I were writing a handbook I'd place the table of integrals at the last part of the math section. The geometry and trig is absolutely recognizable because of the designs. So is the solid geom and the analyt for the same reason. The next section seems to be devoted to chemistry; the Martians used a hexagonal figure for a benzene ring, too, and so that's established. From that we find the key to the Periodic Chart of the Atoms which is run vertically instead of horizontally, but still unique. These guys were sharp, though; they seem to have hit upon the fact that isotopes are separate elements though so close in grouping to one another that they exhibit the same properties. Finding this will uncover a lot of mystery."

"Yeah," agreed Baler, "from a book of this kind we can decipher

most anything. The keying on a volume of physical constants is perfect and almost infinite in number. What do they use for Pi?"

"Circle with a double dot inside."

"And Plank's Constant?"

"Haven't hit that one yet. But we will. But to get back to the meat of this thing, the third section deals with something strange. It seems to have a bearing on this gadget from the top of the tower. I'd say that the volume was a technical volume on the construction, maintenance, and repair of the tower and its functions—whatever they are."

Barney spread the volume out for Jim to see. "That dingbat is some sort of electronic device. Or, perhaps subelectronic. Peel away that rusted side and we'll look inside."

Jim peeled a six-inch section from the side of the big metal tube, and they inspected the insides. Barney looked thoughtful for a minute and then flipped the pages of the book until he came to a diagram.

"Sure," he said exultantly, "this is she. Look, Jim, they draw a cathode like this, and the grids are made with a series of fine parallel lines. Different, but more like the real grid than our symbol of a zigzag line. The plate is a round circle instead of a square, but that's so clearly defined that it comes out automatically. Here's your annular electrodes, and the . . . call 'em deflection plates. I think we can hook this do-boodle up as soon as we get to our place in Lincoln Head."

"Let's go then. Not only would I like to see this thing work, but I'd give anything to know what it's for!"

"You run the crate," said Barney, "and I'll try to decipher this mess into voltages for the electrode-supply and so on. Then we'll be in shape to go ahead and hook her up."

The trip to Lincoln Head took almost an hour. Barney and Jim landed in their landing yards and took the book and the searchlight-thing inside. They went to their laboratory, and called for sandwiches and tea. Jim's sister brought in the food a little later and found them tinkering with the big beam tube.

"What have you got this time?" she groaned.

"Name it and it's yours," laughed Barney.

"A sort of gadget that we found on the Red Desert."

"What does it do?" asked Christine Baler.

"Well," said Jim, "it's a sort of a kind of a dingbat that does things."

"Uh-huh," said Christine. "A dololly that plings the inghams."

"Right!"

"You're well met, you two. Have your fun. But for Pete's sake don't forget to eat. Not that you will, I know you, but a girl has got to make some sort of attempt at admonishment. I'm going to the moompicher. I'll see you when I return."

"I'd say stick around," said Barney. "But I don't think we'll have anything to show you for hours and

hours. We'll have something by the time you return."

Christine left, and the men applied themselves to their problem. Barney had done wonders in unraveling the unknown. Inductances, he found, were spirals; resistance were dotted lines; capacitances were parallel squares.

"What kind of stuff do we use for voltages?" asked Jim.

"That's a long, hard trail," laughed Barney. "Basing my calculations on the fact that their standard voltage cell was the same as ours, we apply the voltages as listed on my schematic here."

"Can you assume that their standard is the same as ours?"

"Better," said Barney. "The Terran Standard Cell—the well-known Weston Cell—dishes out what we call 1.0183 volts at twenty degrees C. Since the Martian description of their Standard Cell is essentially the same as the Terran, they are using the same thing. Only they use sense and say that a volt is the unit of a standard cell, period. Calculating their figures on the numerical base of twelve is tricky, but I've done it."

"You're doing fine. How do you assume their standard is the same?"

"Simple," said Barney in a cheerful tone. "Thank God for their habit of drawing pictures. Here we have the well-known H tube. The electrodes are signified by the symbols for the elements used. The Periodic Chart in the first section came in handy here. But look, master mind, this dinky should be evacuated, don't you think?"

"If it's electronic or subelectronic, it should be. We can solder up this breach here and apply the hyvac pump. Rig us up a power supply whilst I repair the blowout."

"Where's the BFO?"

"What do you want with that?" asked Jim.

"The second anode takes about two hundred volts worth of eighty-four cycles," explained Barney. "Has a sign that seems to signify 'In Phase,' but I'll be darned if I know with what. Y'know, Jim, this dingbat looks an awful lot like one of the drivers we use in our spaceships and driver-wing fliers."

"Yeah," drawled Jim. "About the same recognition as the difference between Edison's first electric light and a twelve-element, electron multiplier, power output tube. Similarity: They both have cathodes."

"Edison didn't have a cathode—"

"Sure he did. Just because he didn't hang a plate inside of the bottle doesn't stop the filament from being a cathode."

Barney snorted. "A monode, hey?"

"Precisely. After which come diodes, triodes, tetrodes, pentodes, hexodes, heptodes—"

"—and the men in the white coats. How's your patching job?"

"Fine. How's your power-supply job?"

"Good enough," said Barney. "This eighty-four cycles is not going to be a sine wave at two hundred volts; the power stage of the

BFO overloads just enough to bring in a bit of second harmonic."

"A beat-frequency-oscillator was never made to run at that level," complained Jim Baler. "At least, not this one. She'll tick on a bit of second, I think."

"Are we ready for the great experiment?"

"Yup, and I still wish I knew what the thing was for. Go ahead, Barney. Crack the big switch!"

Altas held up a restraining hand as Than grasped the main power switch. "Wait," he said. "Does one stand in his sky flier and leave the ground at full velocity? Or does one start an internal combustion engine at full speed?"

"No," said the youngster. "We usually take it slowly."

"And like the others, we must tune our tube. And that we cannot do under full power. Advance your power lever one-tenth step and we'll adjust the deflection anodes."

"I'll get the equipment," said Than. "I forgot that part."

"Never mind the equipment," smiled Altas. "Observe."

Altas picked up a long screwdriverlike tool and inserted it into the maze of wiring that surrounded the tube. Squinting in one end of the big tube, he turned the tool until the cathode surface brightened slightly. He adjusted the instrument until the cathode was at its brightest, and then withdrew the tool.

"That will do for your experimental set-up," smiled Altas. "The operation in service is far more critical and requires equipment. As an experiment, conducted singly, the accumulative effect cannot be dangerous, though if the deflection plates are not properly served with their supply voltages, the experiment is a failure. The operation of the tube depends upon the perfection of the deflection-plate voltages."

"No equipment is required, then?"

"It should have been employed," said Altas modestly. "But in my years as a beam-tower attendant, I have learned the art of aligning the plates by eye. Now, son, we may proceed from there."

Barney Carroll took a deep breath and let the power switch fall home. Current meters swung across their scales for an instant, and then the lights went out in the house!

"Fuse blew," said Barney shortly. He gumbled his way through the dark house and replaced the fuse. He returned smiling. "Fixed that one," he told Jim. "Put a washer behind it."

"O. K. Hit the switch again."

Barney cranked the power over, and once more the meters climbed up across the scales. There was a groaning sound from the tube, and the smell of burning insulation filled the room. One meter blew with an audible sound as the needle hit the end stop, and immediately afterward the lights in the entire block went out.

"Fix that one by hanging a penny behind it," said Jim with a grin.

"That's a job for Martian Electric to do," laughed Barney.

Several blocks from there, an attendant in the substation found the open circuit-breaker and shoved it in with a grim smile. He looked up at the power-demand meter and grunted. High for this district, but not dangerous. Duration, approximately fifteen seconds. Intensity, higher than usual but not high enough to diagnose any failure of the wiring in the district. "Ah, well," he thought, "we can crank up the blow-point on this breaker if it happens again."

He turned to leave and the crashing of the breaker scared him out of a week's growth. He snarled and said a few choice words not fit for publication. He closed the breaker and screwed the blow-point control up by two-to-one. "That'll hold 'em," he thought, and then the ringing of the telephone called him to his office, and he knew that he was in for an explanatory session with some people who wanted to know why their lights were going on and off. He composed a plausible tale on his way to the phone. Meanwhile, he wondered about the unreasonable demand and concluded that one of the folks had just purchased a new power saw or something for their home workshop.

"Crack the juice about a half," suggested Barney. "That'll keep us on the air until we find out what kind of stuff this thing takes. The book claims about one tenth of the current-drain for this unit. Something we've missed, no doubt."

"Let's see that circuit," said Jim. After a minute, he said: "Look, guy, what are these screws for?"

"They change the side plate voltages from about three hundred to about three hundred and fifty. I've got 'em set in the middle of the range."

"Turn us on half voltage and diddle one of 'em."

"That much of a change shouldn't make the difference," objected Barney.

"Brother, we don't know what this thing is even for," reminded Jim. "Much less do we know the effect of anything on it. Diddle, I say."

"O. K., we diddle." Barney turned on half power and reached into the maze of wiring and began to tinker with one of the screws. "Hm-m-m," he said after a minute. "Does things, all right. She goes through some kind of reasonance point or something. There is a spot of minimum current here. There! I've hit it. Now for the other one."

For an hour, Barney tinkered with first one screw and then the other one. He found a point where the minimum current was really low; the two screws were interdepedent and only by adjusting them alternately was he able to reach the proper point on each. Then he smiled and thrust the power on full. The current remained at a sane value.

"Now what?" asked Barney.

"I don't know. Anything coming out of the business end?"

"Heat."

"Yeah, and it's about as lethal as a sun lamp. D'ye suppose the Martians used to artificially assist their crops by synthetic sunshine?"

Barney applied his eye to a spectroscope. It was one of the newer designs that encompassed everything from short ultraviolet to long infrared by means of fluorescent screens at the invisible wave lengths. He turned the instrument across the spectrum and shook his head. "Might be good for a chest cold," he said, "but you wouldn't get a sunburn off of it. It's all in the infra. Drops off like a cliff just below the deep red. Nothing at all in the visible or above. Gee," he said with a queer smile, "you don't suppose that they died off because of a pernicious epidemic of colds and they tried chest-cooking *en masse?*"

"I'd believe anything if this darned gadget were found in a populated district," said Jim. "But we know that the desert was here when the Martians were here, and that it was just as arid as it is now. They wouldn't try farming in a place where iron oxide abounds."

"Spinach?"

"You don't know a lot about farming, do you?" asked Jim.

"I saw a cow once."

"That does not qualify you as an expert on farming."

"I know one about the farmer's daughter, and—"

"Not even an expert on dirt farming," continued Jim. "Nope, Barney, we aren't even close."

Barney checked the book once more and scratched his nose.

"How about that eighty-four cycle supply," asked Jim.

"It's eighty-four, all right. From the Martian habit of using twelve as a base, I've calculated the number to be eighty-four."

"Diddle that, too," suggested Jim.

"O. K.," said Barney. "It doesn't take a lot to crank that one around from zero to about fifteen thousand c.p.s. Here she goes!"

Barney took the main dial of the beat-frequency oscillator and began to crank it around the scale. He went up from eighty-four to the top of the dial and then returned. No effect. Then he passed through eighty-four and started down toward zero.

He hit sixty cycles and the jackpot at the same time!

At exactly sixty cycles, a light near the wall dimmed visibly. The wallpaper scorched and burst into a smoldering flame on a wall opposite the dimmed light.

Barney removed the BFO from the vicinity of sixty cycles and Jim extinguished the burning wallpaper.

"Now we're getting somewhere," said Barney.

"This is definitely some sort of weapon," said Jim. "She's not very efficient right now, but we can find out why and then we'll have something hot."

"What for?" asked Barney. "Nobody hates anybody any more."

"Unless the birds who made this

thing necessary return," said Jim soberly. His voice was ominous. "We know that only one race of Martians existed, and they were all amicable. I suspect an inimical race from outer space—"

"Could be. Some of the boys are talking about an expedition to Centauri right now. We could have had a visitor from somewhere during the past."

"If you define eternity as the time required for everything to happen once, I agree. In the past or in the future, we have or will be visited by a super race. It may have happened six thousand years ago."

"Did you notice that the electric light is not quite in line with the axis of the tube?" asked Barney.

"Don't turn it any closer," said Jim. "In fact, I'd turn it away before we hook it up again."

There she is. Completely out of line with the light. Now shall we try it again?"

"Go ahead."

Barney turned the BFO gingerly, and at sixty cycles the thing seemed quite sane. Nothing happened. "Shall I swing it around?"

"I don't care for fires as a general rule," said Jim. "Especially in my own home. Turn it gently, and take care that you don't focus the tube full on that electric light."

Barney moved the tube slightly, and then with a cessation of noise, the clock on the wall stopped abruptly. The accustomed ticking had not been noticed by either man, but the unaccustomed lack-of-ticking became evident at once. Barney shut off the BFO immediately and the two men sat down to a head-scratching session.

"She's good for burning wallpaper, dimming electric lights, and stopping clocks," said Barney. "Any of which you could do without a warehouse full of cockeyed electrical equipment. Wonder if she'd stop anything more powerful than a clock."

"I've got a quarter-horse motor here. Let's wind that up and try it."

The motor was installed on a bench nearby, and the experiment was tried again. At sixty cycles the motor groaned to a stop, and the windings began to smolder. But at the same time the big tube began to exhibit the signs of strain. Meters raced up their scales once more, reached the stops and bent. Barney shut off the motor, but the strains did not stop in the tube. The apparent overload increased linearly and finally the lights went out all over the neighborhood once more.

"Wonderful," said Barney through the darkness. "As a weapon, this thing is surpassed by everything above a fly swatter."

"We might be able to cook a steak with it—if it would take the terrific overload," said Jim. "Or we could use it as an insect exterminator."

"We'd do better by putting the insect on an anvil and hitting it firmly with a five-pound hammer," said Barney. "Then we'd only have the anvil and hammer to haul around. This thing is like hauling

a fifty-thousand-watt radio transmitter around. Power supplies, BFO, tube, meters, tools, and a huge truck full of spare fuses for the times when we miss the insect. Might be good for a central heating system."

"Except that a standard electric unit is more reliable and considerably less complicated. You'd have to hire a corps of engineers to run the thing."

The lights went on again, and the attendant in the substation screwed the blow-point control tighter. He didn't know it, but his level was now above the rating for his station. But had he known it he might not have cared. At least, his station was once more in operation.

"Well," said Barney, getting up from the table, "what have we missed?"

Altas said: "Now your unit is operating at its correct level. But, son, you've missed one thing. It is far from efficient. Those two leads must be isolated from one another. Coupling from one to the other will lead to losses."

"Gosh," said Than, "I didn't know that."

"No, for some reason the books assume that the tower engineer has had considerable experience in the art. Take it from me, son, there are a lot of things that are not in the books. Now isolate those leads from one another and we'll go on."

"While you're thinking," said Jim, "I'm going to lockstitch these cables together. It'll make this thing less messy." Jim got a roll of twelve-cord from the cabinet and began to bind the many supply leads into a neat cable.

Barney watched until the job was finished, and then said: "Look, chum, let's try that electric-light trick again."

They swung the tube around until it was in the original position, and turned the juice on. Nothing happened.

Barney looked at Jim, and then reached out and pointed the big tube right at the electric light.

Nothing happened.

"Check your anode voltages again."

"All O. K."

"How about that aligning job?"

Barney fiddled with the alignment screws for minutes, but his original setting seemed to be valid.

"Back to normal," said Barney. "Rip out your cabling."

"Huh?"

"Sure. You did something. I don't know what. But rip it out and fan out the leads. There is something screwy in the supply lines. I've been tied up on that one before; this thing looks like electronics, as we agree, and I've had occasion to remember coupling troubles."

"All right," said Jim, and he reluctantly ripped out his lock-stitching. He fanned the leads and they tried it again.

Obediently the light dimmed and the wallpaper burned.

"Here we go again," said Jim, killing the circuits and reaching for a small rug to smother the fire. "No wonder the Martians had this thing out in the middle of the desert. D'ye suppose that they were trying to find out how it works, too?"

"Take it easier this time and we'll fan the various leads," said Barney. "There's something tricky about the lead placement."

"Half power," announced Barney. "Now, let's get that sixty cycles."

The light dimmed slightly and a sheet of metal placed in front of the tube became slightly warm to the touch. The plate stopped the output of the tube, for the wallpaper did not scorch. Jim began to take supply line after supply line from the bundle of wiring. About halfway through the mess he hit the critical lead, and immediately the light went out completely, and the plate grew quite hot.

"Stop her!" yelled Barney.

"Why?"

"How do we know what we're overloading this time?"

"Do we care?"

"Sure. Let's point this thing away from that light. Then we can hop it up again and try it at full power."

"What do you want to try?"

"This energy-absorption thing."

"Wanna burn out my motor?"

"Not completely. This dingbat will stop a completely mechanical gadget like a clock. It seems to draw power from electric lights. It stops electromechanical power. I wonder just how far it will go toward absorbing power. And also I want to know where the power goes."

The tube was made to stop the clock again. The motor groaned under the load put upon it by the tube. Apparently the action of the tube was similar to a heavy load being placed on whatever its end happened to point to. Barney picked up a small metal block and dropped it over the table.

"Want to see if it absorbs the energy of a falling object— Look at that!"

The block fell until it came inside of the influence of the tube. Then it slowed in its fall and approached the table slowly. It did not hit the table, it touched and came to rest.

"What happens if we wind up a spring and tie it?" asked Jim.

They tried it. Nothing happened.

"Works on kinetic energy, not potential energy," said Barney.

He picked up a heavy hammer

and tried to hit the table. "Like swinging a club through a tub of water," he said.

"Be a useful gadget for saving the lives of people who are falling," said Jim thoughtfully.

"Oh, sure. Put it on a truck and rush it out to the scene of the suicide."

"No. How about people jumping out of windows on account of fires? How about having one of the things around during a flier-training course? Think of letting a safe down on one of these beams, or taking a piano from the fifth floor of an apartment building."

"The whole apartment full of furniture could be pitched out of a window," said Barney.

"Mine looks that way now," said Jim, "and we've only moved a couple of times. No, Barney, don't give 'em any ideas."

Jim picked up the hammer and tried to hit the table. Then, idly, he swung the hammer in the direction of the tube's end.

Barney gasped. In this direction there was no resistance. Jim's swing continued, and the look on Jim's face indicated that he was trying to brake the swing in time to keep from hitting the end of the tube. But it seemed as though he were trying to stop an avalanche. The swing continued on and on and finally ended when the hammer head contacted the end of the tube.

There was a burst of fire. Jim swung right on through, whirling around off balance and coming to a stop only when he fell to the floor. He landed in darkness again. The burst of fire emanated from the insulation as it flamed under the heat of extreme overload.

This time the lights were out all over Lincoln Head. The whole city was in complete blackout!

Candles were found, and they inspected the tube anxiously. It seemed whole. But the hammer head was missing. The handle was cut cleanly, on an optically perfect surface.

Where the hammer head went, they couldn't say. But on the opposite wall there was a fracture in the plaster that Jim swore hadn't been there before. It extended over quite an area, and after some thought, Barney calculated that if the force of Jim's hammer blow had been evenly distributed over that area on the wall, the fracturing would have been just about that bad.

"A weapon, all right," said Barney.

"Sure. All you have to do is to shoot your gun right in this end and the force is dissipated over quite an area out of that end. In the meantime you blow out all of the powerhouses on the planet. If a hammer blow can raise such merry hell, what do you think the output of a sixteen-inch rifle would do? Probably stop the planet in its tracks. D'ye know what I think?"

"No, do you?"

"Barney, I think that we aren't even close as to the operation and use of this device."

"For that decision, Jim, you should be awarded the Interplanetary Award for Discovery and Invention—posthumously!"

"So what do we do now?"

"Dunno. How soon does this lighting situation get itself fixed?"

"You ask me . . . I don't know either."

"Well, let's see what we've found so far."

"That's easy," said Jim. "It might be a weapon, but it don't weap. We might use it for letting elevators down easy, except that it would be a shame to tie up a room full of equipment when the three-phase electric motor is so simple. We could toast a bit of bread, but the electric toaster has been refined to a beautiful piece of breakfast furniture that doesn't spray off and scorch the wallpaper. We could use it to transmit hammer blows, or to turn out electric lights, but both of those things have been done very simply; one by means of sending the hammerer to the spot, and the other by means of turning the switch. And then in the last couple of cases, there is little sense in turning out a light by short circuiting the socket and blowing all the fuses.

"That is the hard way," smiled Barney. "Like hitting a telephone pole to stop the car, or cutting the wings off a plane to return it to the ground."

"So we have a fairly lucid book that describes the entire hook-up of the thing except what it's for. It gives not only the use of this device, but also variations and replacements. Could we figure it out by sheer deduction?"

"I don't see how. The tower is in the midst of the Red Desert. There is nothing but sand that assays high in iron oxide between Canalopsis, at the junction of the Grand Canal and Lincoln Head. Might be hid, of course, just as this one was, and we'll send out a crew of expert sub-sand explorers with under-surface detectors to cover the ground for a few hundred miles in any direction from the place where we found this. Somehow, I doubt that we'll find much."

"And how do you . . . ah, there's the lights again . . . deduce that?" asked Jim.

"This gadget is or was of importance to the Martians. Yet in the Temple of Science and Industry at Canalopsis, there is scant mention of the towers."

"Not very much, hey?"

"Very little, in fact. Of course the pictographs on the Temple at Canalopsis shows one tower between what appear two cities. Wavy lines run from one city to the tower and to the other city. Say! I'll bet a cooky that this is some sort of signaling device!"

"A beam transmitter?" asked Jim skeptically. "Seems like a lot of junk for just signaling. Especially when such a swell job can be done with standard radio equipment. A good civilization—such as the Martians must have had—wouldn't piddle around with relay stations between two cities less than a couple of thousand miles apart. With all

the juice this thing can suck, they'd be more than able to bang a straight broadcast station and cover halfway around the planet as ground-wave area. What price relay station?"

"Nevertheless, I'm going to tinker up another one of these and see if it is some sort of signaling equipment."

The door opened and Christine Baler entered. She waved a newspaper before her brother's eyes and said: "Boy, have you been missing it!"

"What?" asked Barney.

"Pixies or gremlins loose in Lincoln Head."

"Huh-huh. Read it," said Jim.

"Just a bunch of flash headlines. Fire on Manley Avenue. Three planes had to make dead-tube landings in the center of the city; power went dead for no good reason for about ten minutes. Façade of the City Hall caved in. Power plants running wild all over the place. Ten thousand dollars' worth of electrical equipment blown out. Automobiles stalled in rows for blocks."

Jim looked at Barney. "Got a bear by the tail," he said.

"Could be," admitted Barney.

"Are you two blithering geniuses going to work all night?" asked Christine.

"Nope. We're about out of ideas. Except the one that Barney had about the gadget being some sort of signaling system."

"Why don't you fellows call Don Channing? He's the signaling wizard of the Solar System."

"Sure, call Channing. Every time someone gets an idea, everyone says, 'Call Channing!' He gets called for everything from Boy Scout wigwag ideas to super-cyclotronic-electron-stream beams to contact the outer planets. Based upon the supposition that people will eventually get there, of course."

"Well?"

"Well, I . . . we, I mean . . . found this thing and we're jolly well going to tinker it out. In spite of the fact that it seems to bollix up everything from electric lights to moving gears. I think we're guilty of sabotage. Façade of the City Hall, et cetera. Barney, how long do you think it will take to tinker up another one of these?"

"Few hours. They're doggoned simple things in spite of the fact that we can't understand them. In fact, I'm of the opinion that the real idea would be to make two; one with only the front end for reception, one for the rear end for transmission, and the one we found for relaying. That's the natural bent, I believe."

"Could be. Where are you going to cut them?"

"The transmitter will start just before the cathode and the receiver will end just after the . . . uh, cathode."

"Huh?"

"Obviously the cathode is the baby that makes with the end product. She seems to be a total intake from the intake end and a complete output from the opposite end. Right?"

"Right, but it certainly sounds like heresy."

"I know," said Barney thoughtfully, "but the thing is obviously different from anything that we know today. Who knows how she works?"

"I give up."

Christine, who had been listening in an interested manner, said: "You fellers are the guys responsible for the ruckus that's been going on all over Lincoln Head?"

"I'm afraid so."

"Well, brother warlocks, unless you keep your activities under cover until they're worth mentioning, you'll both be due for burning at the stake."

"O. K., Chris," said Jim. "We'll not let it out."

"But how are you going to tinker up that transmitter-relay-receiver system?"

"We'll take it from here to Barney's place across the avenue and into his garage. That should do it."

"O. K., but now I'm going to bed."

"Shall we knock off, too?" asked Jim.

"Yup. Maybe we'll dream a good thought."

"So long then. We'll leave the mess as it is. No use cleaning up now, we'll only have to mess it up again tomorrow with the same junk."

"And I'll have that—or those—other systems tinkered together by tomorrow noon. That's a promise," said Barney. "And you," he said to Christine, "will operate the relay station."

Altas said to Than: "Now that your system is balanced properly, and we have proved the worth of this tube as a replacement, we shall take it to the roof and install it. The present tube is about due for retirement."

"I've done well, then?" asked Than.

"Considering all, you've done admirably. But balancing the device in the tower, and hooked into the circuit as an integral part is another thing. Come, Than. We shall close the line for an hour whilst replacing the tube."

"Is that permissible?"

"At this time of the night the requirements are small. No damage will be done; they can get along without us for an hour. In fact, at this time of night, only the people who are running the city will know that we are out of service. And it is necessary that the tube be maintained at full capability. We can not chance a weakened tube; it might fail when it is needed the most."

Than carried the tube to the top of the tower, and Altas remained to contact the necessary parties concerning the shut-off for replacement purposes. He followed Than to the top after a time and said: "Now disconnect the old tube and put it on the floor. We shall replace the tube immediately, but it will be an hour before it is properly balanced again."

It was not long before Than had the tube connected properly. "Now," said Altas, "turn it on one-tenth power and we shall align it."

"Shall I use the meters?"

"I think it best. This requires perfect alignment now. We've much power and considerable distance, and any losses will create great amounts of heat."

"All right," said Than. He left the tower top to get the meters.

Barney Carroll spoke into a conveniently placed microphone. "Are you ready?" he asked.

"Go ahead," said Christine.

"We're waiting," said Jim.

"You're the bird on the transmitter," said Barney to Jim. "*You* make with the juice."

Power rheostats were turned up gingerly, until Jim shouted to stop. His shout was blotted out by cries from the other two. They met in Barney's place to confer.

"What's cooking?" asked Jim.

"The meters are all going crazy in my end," said Barney. "I seem to be sucking power out of everything in line with my tube."

"The so-called relay station is firing away at full power and doing nothing but draining plenty of power from the line," complained Christine.

"And on my end, I was beginning to scorch the wallpaper again. I don't understand it. With no receiver-end, how can I scorch wallpaper?"

"Ask the Martians. They know."

"You ask 'em. What shall we do, invent a time machine and go back sixty centuries?"

"Wish we could," said Barney. "I'd like to ask the bird that left this textbook why they didn't clarify it more."

"Speaking of Don Channing again," said Jim, "I'll bet a hat that one of his tube-replacement manuals for the big transmitters out on Venus Equilateral do not even mention that the transmitter requires a receiver before it is any good. We think we're modern. We are, and we never think that some day some poor bird will try to decipher our technical works. Why, if Volta himself came back and saw the most perfect machine ever invented—the transformer—he'd shudder. No connection between input and output, several kinds of shorted loops of wire; and instead of making a nice simple electromagnet, we short the lines of force and on top of that we use a lot of laminations piled on top of one another instead of a nice, soft iron core. We completely short the input, et cetera, but how do we make with a gadget like that?"

"I know. We go on expecting to advance. We forget the simple past. Remember the lines of that story: 'How does one chip the flint to make the best arrowhead?' I don't know who wrote it any more than I know how to skin a boar, but we do get on without making arrowheads or skinning boars or trimming birch-bark canoes."

"All right, but there's still this problem."

"Remember how we managed to align this thing? I wonder if it might not take another alignment to make it work as a relay."

"Could be," said Jim. "I'll try it. Christine, you work these screws at the same time we do, and make the current come out as low as we can."

They returned to their stations and began to work on the alignment screws. Jim came out first on the receiver. Christine was second on the transmitter, while Barney fumbled for a long time with the relay tube.

Then Christine called: "Fellows, my meter readings are climbing up again. Shall I diddle?"

"Wait a minute," said Barney. "That means I'm probably taking power out of that gadget you have in there. Leave 'em alone."

He fiddled a bit more, and then Jim called: "Whoa, Nellie. "Someone just lost me a millimeter. She wound up on the far end."

"Hm-m-m," said Barney, "so we're relaying."

"Go ahead," said Jim. "I've got a ten-ampere meter on here now."

Barney adjusted his screws some more.

"Wait a minute," said Jim. "I'm going to shunt this meter up to a hundred amps."

"What?" yelled Barney.

"Must you yell?" asked Christine ruefully. "These phones are plenty uncomfortable without some loud-mouthed bird screaming."

"Sorry, but a hundred amps . . . *whoosh!* What have we got here, anyway?"

"Yeah," said Christine. "I was about to say that my input meter is running wild again."

"Gone?"

"Completely. You shouldn't have hidden it behind that big box. I didn't notice it until just now, but she's completely gone."

"I'll be over. I think we've got something here."

An hour passed, during which nothing of any great importance happened. By keying the transmitter tube, meters in the receiver tube were made to read in accordance. Then they had another conclave.

"Nothing brilliant," said Jim. "We could use super-output voice amplifiers and yell halfway across the planet if we didn't have radio. We can radio far better than this cockeyed system of signaling."

"We might cut the power."

"Or spread out quite a bit. I still say, however, that this is no signaling system."

"It works like one."

"So can a clothesline be made to serve as a transmitter of intelligence. But it's prime function is completely different."

"S'pose we have a super-clothesline here?" asked Christine.

"The way that hammer felt last night, I'm not too sure that this might not be some sort of tractor beam," said Jim.

"Tractor beams are mathematically impossible."

"Yeah, and they proved conclu-

sively that a bird cannot fly," said Jim. "That was before they found the right kind of math. Up until Clerk Maxwell's time, radio was mathematically impossible. Then he discovered the electromagnetic equations, and we're squirting signals across the Inner System every day. And when math and fact do not agree, which changes?"

"The math. Galileo proved that. Aristotle said that a heavy stone will fall faster. Then Galileo changed the math of that by heaving a couple of boulders off the Leaning Tower. But what have we here?"

"Has anyone toyed with the transmission of power?"

"Sure. A lot of science-fiction writers have their imaginary planets crisscrossed with transmitted power. Some broadcast it, some have it beamed to the consumer. When they use planes, they have the beam coupled to an object-finder so as to control the direction of the beam. I prefer the broadcasting, myself. It uncomplicates the structure of the tale."

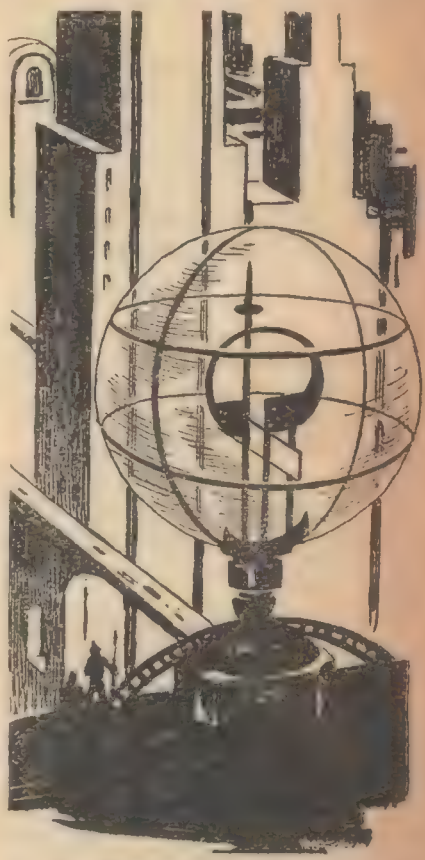
"I mean actually?"

"Oh, yes. But the losses are terrific. Useful power transmission is a minute percentage of the total output of the gadget. Absolutely impractical, especially when copper and silver are so plentiful to string along the scenery on steel towers. No good."

"But look at this cockeyed thing. Christine puts in a couple of hundred amps; I take them off my end. Believe it or not, the output meter at my end was getting a lot more soup than I was pouring in."

"And my gadget was not taking anything to speak of," said Barney.

"Supposing it was a means of transmitting power. How on Mars did they use a single tower there



in the middle of the Red Desert? We know there was a Martian city at Canalopsis, and another one not many miles from Lincoln Head. Scribbled on the outer cover of this book is the legend: 'Tower Station, Red Desert,' and though the Mar-

tians didn't call this the 'Red Desert,' the terminology will suffice for nomenclature."

"Well?" asked Jim.

"You notice they did not say: 'Station No. 1,' or '3' or '7.' That means to me that there was but one."

"Holy Smoke! Fifteen hundred miles with only one station? On Mars the curvature of ground would put such a station below the electrical horizon—" Jim thought that one over for a minute and then said: "Don't tell me they bent the beam?"

"Either they did that or they heated up the sand between," said Barney cryptically. "It doesn't mind going through nonconducting walls, but a nice, fat ground . . . blooey, or I miss my guess. That'd be like grounding a high line."

"You're saying that they did bend — *Whoosh*, again!"

"What was that alignment problem? Didn't we align the deflecting anodes somehow?"

"Yeah, but you can't bend the output of a cathode ray tube externally of the deflection plates."

"But this is not electron-beam stuff," objected Barney. "This is as far ahead of cathode-ray tubes as they are ahead of the Indian signal drum or the guy who used to run for twenty-four miles from Ghent to Aix."

"That one was from Athens to Sparta," explained Christine, "the Ghent to Aix journey was a-horseback, and some thousand-odd years after."

"Simile's still good," said Barney. "There's still a lot about this I do not understand."

"A masterpiece of understatement, if I ever heard one," laughed Jim. "Well, let's work on it from that angle. Come on, gang, to horse!"

"Now," said Altas, "you will find that the best possible efficiency is obtained when the currents in these two resistances are equal and opposite in direction. That floats the whole tube on the system, and makes it possible to run the tube without any external power source. It requires a starter-source for aligning and for standby service, and for the initial surge; then it is self-sustaining. Also the in-phase voltage can not better be obtained than by exciting the phasing anode with some of the main-line power. That must always be correctly phased. We now need the frequency generator no longer, and by increasing the power rheostat to full, the tube will take up the load. Watch the meters, and when they read full power, you may throw the cut-over switch and make the tube self-sustaining. Our tower will then be in perfect service, and you and I may return to our home below."

Than performed the operations, and then they left, taking the old tube with them.

And on Terra, Sargon of Akkad watched ten thousand slaves carry stone for one of his public buildings. He did not know that on one of the stars placed in the black bowl

of the evening sky for his personal benefit, men were flinging more power through the air than the total output of all of his slaves combined. Had he been told, he would have had the teller beheaded for lying because Sargon of Akkad couldn't possibly have understood it—

"You know, we're missing a bet," said Jim. "This in-phase business here. Why shouldn't we hang a bit of the old wall-socket juice in here?"

"That might be the trick," said Barney.

Jim made the connections, and they watched the meters read up and up and up—and from the street below them a rumbling was heard. Smoke issued from a crevasse in the pavement, and then with a roar, the street erupted and a furrow three feet wide and all the way across the street from Jim Baler's residence to Barney Carroll's garage lifted out of the ground. It blew straight up and fell back, and from the bottom of the furrow the smoldering of burned and tortured wiring cast a foul smell.

"Wham!" said Barney, looking at the smoking trench. "What was that?"

"I think we'll find that it was the closest connection between our places made by the Electric Co.," said Jim.

"But what have we done?"

"I enumerate," said Christine, counting off on her fingers. "We've blasted in the façade of the City Hall. We've caused a couple of emergency flier-landings within the city limits. We've blown fuses and circuit

breakers all the way from here to the main powerhouse downtown. We've stalled a few dozen automobiles. We've torn or burned or cut the end off of one hammer and have fractured the wall with it . . . where did that go, anyway, the hammerhead? We've burned wallpaper. We've run our electric bill up to about three hundred dollars, I'll bet. We've bunged up a dozen meters. And now we've ripped up a trench in the middle of the street."

"Somewhere in this set-up, there is a return circuit," said Jim thoughtfully. "We've been taking power out of the line, and I've been oblivious of the fact that a couple of hundred amperes is too high to get out of our power line without trouble. What we've been doing is taking enough soup out of the public utility lines to supply the losses only. The power we've been seeing on our meters is the build-up, recirculated!"

"Huh?"

"Sure. Say we bring an amp in from the outside and shoot it across the street. It goes to the wires and comes back because of some electrical urge in our gadgets here, and then goes across the street in-phase with the original. That makes two amps total crossing our beam. The two come back and we have two plus two. Four come back, and we double again and again until the capability of our device is at saturation. All we have to do is to find the ground-return and hang a load in there. We find the transmitter-load input, and supply that with a generator. Brother, we can beam power all the way from here to Canalopsis on one relay tower!"

Barney looked at his friend. "Could be."

"Darned right. What other item can you think of that fits this tower any better? We've run down a dozen ideas, but this works. We may be arrested for wrecking Lincoln Head, but we'll get out as soon as this dingbat hits the market. Brother, what a find!"

"Fellows, I think you can make your announcement now," smiled Christine. "They won't burn you at the stake if you can bring electric power on a beam of pure nothing. This time you've hit the jackpot!"

It is six thousand Terran Years since Sargon of Akkad held court that was lighted by torch. It is six thousand years, Terran, since Than and Altas replaced the link in a power system that tied their cities together.

It is six thousand years since the beam tower fell into the Red Desert and the mighty system of beamed power became lost as an art. But once again the towers dot the plains, not only of Mars, but of Venus and Terra, too.

And though they are of a language understood by the peoples of three worlds, the manuals of instruction would be as cryptic to Than as his manual was to Barney Carroll and Jim Baler.

People will never learn.

THE END.

Fricassee in Four Dimensions

by F. Schuyler Miller

***He** was a remarkable cook—and remarkable in a number of other ways for that matter. But the most remarkable dish he cooked up was stew that wouldn't stay cooked!*

Illustrated by Orban

I ask you, how was I to know?

Whatever happens, it's my fault. If I hadn't taken this job, we wouldn't be living in a town where cooks are gold plated, set with diamonds, and born with platinum back teeth. If I hadn't been a big shot in a small way, Eleanor wouldn't have been asked to do the things she does in Red Cross, Civilian De-

fense, the Bureau of Family Welfare, and the Girl Scouts. And, if I hadn't been fool enough to talk at dinner about the wages women were getting down at the plant, Doris would still be in the kitchen instead of behind a lathe.

I heard about it most of the night and all through breakfast. Eleanor had parked the kids next door and gone to some committee meeting when I came home, so I grabbed my rod and boots and went out to catch a couple of fish.

The best trout stream in Madisonville is the old Brickyard Creek, and the best part of it is down back of the railroad yard, where you'd no more expect to find trout than—well, than a cook. I had two in my creel and had hooked a third when I spotted him.

Where the creek runs into the river, just east of the railroad bridge, there is a hobo jungle. As a matter of fact, the way I learned about the creek was watching tramps fry a couple of twelve-inch beauties, at a time when the boys down at the office were using plastic surgery to stretch their puny catch over the limit. This fellow looked like the average tramp, and I didn't pay much attention to him. He had a little fire going, and was cooking something over the coals.

The third fish was just about pan size, and I thought he might like it. I can cook in the open well enough to eat what I put together, but I wasn't going to risk peace and sanity by taking a mess of fish home to Eleanor when she had just lost the best cook we ever had.

Close up, he looked too well dressed to be a tramp—more like a white-collar man in old clothes. He had a skillet of some shiny white metal, and whatever he was cooking smelled like heaven. He looked up when he heard me climbing the bank. He was young—still in his thirties, I thought. I wondered why he wasn't in the army or a war job.

"Hello," I said, "got any use for a fish?" I held up the biggest of the three trout.

He smiled. It was a winning sort of grin. He might be a draft-dodger—a lot of these hobos have never bothered to register—but I wasn't going to turn him in. "Thanks," he said. "I like fish. I'll have it for breakfast."

I handed him the fish. What he did I still don't know. There was a sort of twist of his wrist, and the trout was inside out. He flicked here and there with a shining little knife and deposited its plumbing in a hole he had dug beside the fire, with a neat stopper of turf beside it. Then twist—*zip*—and the trout was inside out again. He hung it on a bush, saw that I was watching him bug-eyed, and turned bright red.

"Sorry," he mumbled. "Little trick I picked up from a feller in Yuma. Indian. It—bothers people."

I sat down on a log across the fire from him and filled my pipe. The aroma of the stuff in the skillet wafted my way, mixed with the incense of hickory coals. I'd never smelled anything quite like it. I

motioned with my pipestem.

"What's that?" I asked. "Goulash?"

He grinned again. "Sort of," he said. "Just something I cooked up. Join me?"

I suppose I'd been angling for that invitation from the moment I smelled the stuff he was cooking. I turned him down once, in case he was hungrier than I thought, and then accepted with pleasure. His pack was hanging on a tree behind him, and he twisted around on his haunches and reached into it—and turned back with a little box in his hand. It was made of the same white metal as the skillet, not more than six inches square, but out of it he produced plates, forks, knives, and cups. He raked aside the coals and there was an odd flasklike contraption that squirted hot coffee when he did something to it. It all happened so quickly that I was eating before I realized that he hadn't opened the box.

The goulash was great. The meat was game—pheasant, I supposed—but it had a tang to it that was brand-new. The herbs he'd used with it were really something! Man, was he a cook!

His coffee decided me. It tasted the way freshly ground coffee smells. I'd never tasted coffee like it. I polished my plate with a heel of brownish bread and leaned back against my log.

"Look," I blurted, "why aren't you working?"

It wasn't the kind of question to ask a man who has just fed you on manna straight from heaven, but he didn't seem to mind. He just grinned that friendly grin.

"No papers," he said. "No birth certificate. No school record. No nothing. They won't have me. Neither will the army. My innards are —funny."

Funny! That was a high in understatement. I wish I knew what doctor examined him. I wish I knew what they put down on his record. I wish I'd known then—

"Do you *want* to live this kind of life?" I persisted. "Don't you ever make plans?"

He eyed me thoughtfully. "I like it," he admitted, "but I like other things, too."

"Have you ever thought about cooking?" I demanded. "As a job, I mean? You don't need papers for that. And cooks are scarcer than white-wall tires these days. I'll pay you all you can get at a machine *and* your keep if you'll cook for me and turn out stuff like that."

He looked at me. He looked up at the sky, and the trees moving in the wind, and the clouds going silently over. He looked at the brook, and the pattern of eddies where it swirled past the abutment of the bridge. I guess he liked all that—a lot. Then he looked back at me.

"All right," he said.

We beat Eleanor home. He put his pack in Doris' room off the kitchen and began to look things over while I went after the kids. They're three and nine, girl and boy, Pat and Mike. Pat scrambled un-

der my arm the moment I opened the front door and headed straight for the kitchen. Doris always had cookies for her, in spite of the strict rules about between-meals snacks that Eleanor was trying to enforce. She stopped in the kitchen door and stared. She twisted her head around on her shoulders like an owl's and looked back at me.

"Who's he?" she asked.

I didn't know. We hadn't bothered about names. I looked the question back at him, over Pat's head. He was fussing around the stove, still in his checked shirt and faded breeches. He hesitated a minute, looking soberly at the three of us.

"Smith," he said suddenly. "Yes —Smith. Smitty."

"He's Smitty," I told the kids. "He's going to cook for us. Doris went away."

"No cookies?" Pat was set for tears. I tousled her head. "Smitty will have cookies for you tomorrow," I told her. "But don't let Mummy hear you asking for them."

Smitty had a queer look in his eye. "Wait a minute," he said. "I think maybe—" He turned his back. I couldn't see what it was he was doing. When he turned around there was a pan of cookies in his hand—fresh cookies, hot from the oven. I could smell them, and so could the kids. They stampeded across the kitchen, but he lifted the pan above their heads. He looked at me and I nodded. He waded over to the table and made them sit down while he shoveled the cookies off on a plate. They were a kind Eleanor makes, and I'd never seen anyone else do them.

I happened to look at the stove. Those cookies were hot—fresh out of the oven—but the oven wasn't on. Smitty caught me staring and turned red again.

"I—they were—here," he said. "I just happened to find them."

There was something screwy about the set-up, but it was none of my business when the guy could cook the way he could. I assembled the kids and the cookies and herded them all out of the kitchen. I swiped one from Mike. It *was* hot and it *was* Eleanor's recipe.

Eleanor, when she got home and crawled out of her uniform, wasn't so certain that she wanted a young man in the kitchen. Her objections were one part prejudice against men in women's work, one part conviction that anyone of draft age should be shooting someone or earning a lot of overtime, and one part wondering what the neighbors would think of a handsome youngster like Smitty around the house. I made him come in and explain about his insides, I let his cooking speak for itself, and she decided to let the neighbors gab. We had us a cook.

We had a lot more than that. We had a handyman, bartender, and nursemaid. We had a chauffeur, tailor and field hand. Smitty had gadgets in that little box of his that would get into anything and do whatever needed doing. He could *see* the source of trouble in a balky

gas line or a fritzed lead wire and knew instinctively what to do about it. The kids took to him and he to them like wasps to molasses. He patched their pants and did their homework—or made them do it. He'd been around. He knew how people looked in Surabaya and Guadalcanal, and what they ate for dinner, and how to cook up messes that smelled and looked and tasted the way their food did. When Mike was studying Arabs, he had Arab stew and ate it with his right hand the way an Arab would while we all looked on and envied. When Pat was told a story about Eskimos she had a chunk of frozen blubber to chew on, and for some unknown reason she didn't heave all over the floor. He could do tricks with numbers that made arithmetic seem a little less like something the Gestapo had thought up in a sour moment. He could take spots out of things that had never had spots taken out. And boy—could he cook!

I was afraid there was going to be trouble that first night. Eleanor went out into the kitchen after dinner and spied the cookie tin on the table. She grunted. That's bad.

"Where did that come from?" she demanded. "It's the one I lost last week. The one that just vanished into thin air—cookies and all. I punished Mike for taking it."

Smitty was looking uneasy. "I . . . well . . . I found it," he said lamely. "It was—around."

Eleanor didn't swallow that. She knows a guilty look when she sees one. I figured, and I guess she did, that he might have sneaked in and swiped the thing and had it with him when I picked him up. She didn't know about the hot cookies. By the grace of God, Pat picked that moment to fall down the front stairs again. She does it regularly, and she never hurts herself, but she howls like a banshee with boils. Eleanor went charging out to do what needed to be done, and I gave Smitty a long, relieved look.

"Take it easy," I warned him. "No magic. No miracles. Just good, plain cooking—plain enough so it don't make her jealous and good enough so's she can boast about it. Then she'll leave you alone and you can run things out here pretty much as you please. Kapish?"

He grinned. He made me an "O" with his fingers. He turned on the hot water in the sink and began to roll up his sleeves. He was in.

I'm busy and so was Eleanor. She soon learned that Smitty could do anything with the children, and since she never knew that I was paying him as much as a first-class mechanic, she had no scruples about letting him do more than he was paid for. She took on a couple more committees, Mike began to get better marks in school—though he occasionally had a little difficulty explaining where he got the authentic but lively information in his answers—and Pat beamed and grew fat. We were a happy family.

I don't know exactly when it began to get too good to be true. It

started with the kids, of course. They were always with Smitty, in and out of the kitchen, tagging him around the garden, asking crazy questions and getting serious answers. I'll never forget the morning I came down for breakfast and found Mike juggling eggs. Eleanor, praise be, was in bed with a headache. He had four of them, tossing them up and catching them expertly as if he'd been doing it for years. My slippers rapped on the hardwood floor and the first egg went astray. I shut my eyes. *Pop—pop—pop*—it was like Ping-pong balls falling. I opened my eyes and reached for Mike. He dodged. I knew why in a moment. The eggs were empty.

Mike grinned at me warily. It was a lot like Smitty's grin. He held up a fifth egg. "See?" he said. I took it. It was light—nothing but the shell. But there wasn't a break in the shell. I crushed it in my fingers. It was empty, all right.

"What happened to the egg?" I asked. I don't like my kids knowing things I don't—not things like that.

Mike pointed to the table. We were having scrambled eggs. "There," he said. "It's how Smitty empties them."

I opened my mouth to put him back a notch. After all, there's a limit to what a parent is supposed to take from his offspring. But I remembered the fish—and the cookies—and let sleeping dogs lie.

"What else does Smitty do?" I asked cautiously.

Mike considered. "Weell-l," he said, "he don't use a can opener. It's like with the eggs—he just empties 'em out. And he don't—doesn't—always open the refrigerator when he takes stuff out."

I thought I knew that one. We'd had trouble before, teaching the kids to close the refrigerator door. Smitty wasn't going to be a bad example if I could help it.

"You tell Smitty," I said severely, "that the door is put on a refrigerator to keep the heat out and the cold in. It's made to be kept closed. That goes for him as well as you."

Pat giggled and Mike laughed out loud. "I don't mean *that*," he said scornfully. "The door's closed. He just reaches in without opening it, and gets stuff. It's a magic trick—like when he walks through the wall."

Pat verified that. "It's funneee!" she squealed.

My head was going around in involutes or something, and I was thanking the saints and apostles that the head of the house was safe upstairs. I remembered the time Bill Travers had tried parlor tricks at a bridge party and smashed one of our best crystal goblets. If Eleanor ever found out that Smitty was teaching the kids that kind of stuff, she'd blow high, wide, and very, very handsome.

I took Mike by the shoulder in a man-to-man sort of way. After all, he was nine-going-on-ten and we both had to live with his mother. I put a little parental authority into my voice, too, just so there'd be no misunderstanding about what I was

driving at. "Look, pal," I said, "you know as well as I do that mother doesn't go for monkey business around the house. If Smitty shows you tricks, you see to it that they stay in the kitchen or outdoors. Not in here. Kapish?"

He grinned—Smitty's grin. He gave me the "O." The tricks would stay in their place and we'd all live happy ever after.

All, that is, but yours truly. Fortunately I have capable secretaries, who could probably do as well without me as with me to bother them. Eggs and fish and cans of beans went mulling around inside my skull like suds down the bathtub drain, and Smitty, grinning like a clown, danced in and out among them with Pat and Mike perched on either shoulder juggling shining skillets. Halfway through the afternoon the phone rang. It was Smitty, and he sounded worried.

"Hey, boss," he said, "it's the kid. Pat. She's gone."

I felt the bottom go out of my stomach. I guess I said something —I don't know what. Smitty cut in again.

"Look, boss," he said, "it isn't that bad. I know where she is, and I'm going after her. I just wanted to tell you, in case I don't have dinner ready in time."

There was a click and a buzz. He'd hung up.

They tell me I walked out of the office like a zombie. By the time I got to the stairs I'd started to run. The elevator girl yelled at me, but I didn't hear her. If my mind had been working, I suppose I'd have hailed a taxi or gone round the corner for my car, but all I could think of was getting home and getting there fast. It's nearly two miles and it took me twenty minutes.

The moment I opened the front door the emptiness of the place caught at me. Pat's old woolly dog was on the bottom step of the stairs; I picked it up. The gas was on under one of Smitty's pots and it was bubbling gently; I turned it off. We wouldn't need it. They were gone.

I went from one room to the other, searching automatically. No Pat. No Smitty. In my normal senses I might have reasoned that if he'd said he was going after her, they'd both be somewhere else. I wasn't reasoning. And then in the midst of it all the front door creaked open.

I heard it from upstairs in the nursery, and I was halfway down before I saw who it was. It was Mike, home from school. He's a sensitive kid, and I guess he saw what was in my face. He had a couple of books under his arm, and he put them carefully down on the hall table before he came to me. He let me put my hand on his hair.

"Pat's gone," I told him gently.

He ducked away from me. "Where?" he asked. "Tell Smitty —he'll get her."

"I don't know." I guess it must have sounded pretty childish to a fellow who's ready for the sixth grade. "He's gone, too. I guess he went after her."

Mike wasn't scared; he was disgusted. "Aw-w-w!" he protested. "I told her not to."

Somehow that got through to me. I grabbed his shoulder. I guess maybe I hurt him. "What did you tell her?" I demanded. "Where is she? Do you know?"

I don't think I've ever seen a kid Mike's age who was embarrassed. They must get that way, considering some of the antics their parents go through, but I'd just never seen it. Mike was embarrassed now, and he looked a little guilty, too.

"She's all right," he insisted. "Smitty knows. He'll get her." He tried to squirm out of my grip.

"Look here, pal," I told him. "This is no game. Pat's only three, and a lot can happen to her before anyone catches up with her. I want to know where she is."

He could tell I meant it, but it came hard for him. He wouldn't lie and he didn't want to tell me. "Well," he finally admitted, "I guess she went over there."

"Over where?" It meant nothing to me. "Over to the woods?" We'd been on a picnic the Sunday before, across the river in a grove of pines.

Now the ice was broken, Mike was willing enough to talk. "Gee, no," he scoffed. "Over *there*—where Smitty goes." He waved his arm vaguely. "Like this."

He hitched up his pants and began to count. Then, in time to the count, he began to sway back and forth from one foot to the other. Back and forth, back and forth—then suddenly he twisted queerly on his heel—and vanished.

I thought Mike had ducked through the portieres into the living room. He wasn't there. I thought maybe he had slipped out of the front door. He wasn't on the porch. I called to him: "Mike!" but there was only that empty stillness. Then I heard footsteps in the kitchen. I flung open the door, and there he was—dripping wet—soaked from head to foot and muddy to the knees.

"Gee, pop," he told me breathlessly, "I fell in. I forgot about the creek. We better do it in here."

I was getting angry. I'd had enough of his nonsense. "Do what?" I snapped.

He stared at me. "Well, gee—go after them! I found Smitty's tracks in the grass. I'm pretty good at following tracks."

My brain was spinning. I let myself down slowly on the kitchen stool. "Look, Mike," I said, "let's start over again. Right from the beginning. Where's Pat? Where did you go? Where did you find Smitty's tracks?"

He stood there in his puddle, scowling at me. Why I should have called upon a member of the fifth grade, nine-going-on-ten, to explain the fourth dimension is something only a student of parents can answer. I did, though, and he tried. He was very patient about it, on the whole.

"Gee, pop," he complained "I told you once. It's—over there. A place—like in fairyland maybe.

Only there ain't . . . aren't any fairies in it. It's right there all the time, only we can't see it, Smitty says. You have to know the secret to go there. We watched Smitty do it, when he didn't know we were there, and then we tried it. Pat learned a lot quicker than I did."

Eleanor would never have let it go at that. She'd never have listened, in the first place. No woman would. Her mind would have been made up long since, and she'd be working on whatever assumption she'd settled on. Anything that didn't fit, she'd ignore. And with Mike soaked to the skin like that, she'd have sent him upstairs to change while she called the police.

I'm a man—Eleanor's husband—Mike's father. I'd seen him, with my own eyes, do a kind of hopscotch twist and vanish. I was willing to let it go at that. So I took him by the shoulders, like a two-man conga line, and solemnly mimicked every move he made. We did it once, and nothing happened. We did it again, and he turned into thin air. He came back, and we did it again and again, until my skull was splitting and I didn't know which way was up. I think that was what did it. I think I was so tired that all the tension was out of me, and I was content to follow through, doing just what he did. Suddenly I knew that I had the pattern—I twisted as he did—and we tumbled through.

Through? It was through nothing. We were outdoors, and we weren't in any place I have ever seen. Mike had been telling the truth: there was an "over there." It was a quiet, green world—a sunny meadow with tall green grass, a clear little stream, wooded hills coming in close. There were flowers in the grass, but they weren't any kind I had ever seen in the hills around Madisonville. The trees were trees, but they had different shapes. The sky was blue, and it had white summer clouds in it, like clouds at home. It was just another world—a good world. .

Mike was across the creek and halfway up the opposite hill. He was following a matted trail in the grass, and I saw with a stab of gladness that there were two trails, a little one and a wider one, converging near the top of the hill. I vaulted the creek and hurried after him.

It was nearly sundown when we found them. Pat was riding on Smitty's shoulders, clutching something to her small stomach and listening attentively while he gave her the bawling-out of her life. I suppose I spoiled any effect it may have had when I snatched her away from him and heaped a garbled mixture of love and wrath on her tousled head.

The sun was just settling behind the farthest hills when we reached the spot beside the brook where we had popped into this other world. Birds that seemed a little like thrushes were singing in the forest, and something about as big as a fox slipped away through the grass

as we came over the hill. Pat and Mike went first, slipping through with that uncanny wriggle, and then it was my turn. And I couldn't do it.

I tried it alone. I tried it behind Smitty. Mike came back to see what was holding us up, and I tried to follow him again. It was no use. Maybe I had regained whatever control of my senses I had relinquished that first time. Maybe my feet tangled in the grass. Maybe—but why go through all that? I was stuck. I couldn't make it. I was marooned—in another world.

Smitty took the whole thing pretty seriously, being adult and able to think things through. The fact that he could do it easily was no help at all, because he admitted reluctantly that he'd always been able to slip "through," even as a child. He thought his mixed-up insides had something to do with it, because he could do other things like reaching into closed boxes. He'd never known that anyone else could catch the trick until one day Pat followed him. Then he had to teach Mike to keep peace in the family.

I asked him where we were, and he couldn't tell me. He thought it was another world, coexistent with our own, and that we got into it by taking some kind of short cut, like boring a hole from the outside of a hollow globe to the inside and creeping through. He'd read something about a fourth dimension that seemed to fit, but there were some writers who seemed to think the fourth dimension was a place and others who plugged for it to be time. With him it was all mixed up, the two together, because he could reach into places or into times. He'd snatched that pan of cookies out of the past, and he gave me a demonstration in which his right arm vanished from the shoulder down and reappeared with my wallet in its hand. It was my wallet because it had my draft card and all my other papers in it, but I still had its duplicate in my coat pocket. Three minutes later the one in my pocket evaporated. He claimed he'd reached ahead three minutes in time and taken it.

It was well after dark and I was beginning to wonder what Eleanor would be doing when she found that her husband had done the vanishing act. I knew that the kids' explanations weren't going to make sense to anybody. Then Mike reappeared, like a light that's been turned on, out of nowhere. Pat was hanging onto his hand.

"Mother phoned," he announced triumphantly. "She won't be home. I told her we were going camping."

It was as simple as that to the nine-year-old intellect. We were going camping. It was Friday night, and I sometimes took Saturday off when I was pretty well caught up on the week's work. We might not be back until Monday morning, in time for school, Mike had announced to his mother.

So we camped out. I could see that Smitty knew this place pretty

well, and I suspected that the children did, too. We went farther up the creek, to where it came out of the woods, and there under the shelter of a high, sloping ledge was a deep bed of leaves and grass and the remains of an old campfire. From the way Pat burrowed into the leaves in a little cranny behind a big stone, and Mike set about gathering wood, I gathered that they had been here before.

Smitty went "through" for blankets, and to lock up the house. The night was warm, though, and we sat around the fire watching him fuss with the gadgets in that pack of his. It was the first I'd seen those skillets of his since that day by the railroad, and I gave them the once-over closely. They were made of an alloy that was new to me, and we see most of them in our business. I asked him about it. He said it was stuff he'd found in another part of this same world, in the solid, native state. It had some of the properties of gold or platinum, but it was lighter and harder.

Both kids were giving him instructions about what they wanted to eat, and he admitted that after Pat found the way through he'd had to take them on fairly frequent picnic trips, in return for a promise never to come alone. Times when we thought they were berrying in

Hanson's woods, or hiking along the hill trail, they had really been over here, on the other side of nowhere, exploring a world where no other human foot had ever walked.

I wasn't sold on the looks of the meal he put together for us, but we ate well. He rummaged around in the marsh on the far side of the creek and came back with a brown, froggy-looking creature that bleated like a lamb. He sent Mike to the meadow for a bunch of herbs, and set Pat to digging with a knife for the fat, white roots of a purple-flowered plant which grew in profusion under the trees at the edge of the woods. He went out himself to look for a jellylike fungus, bright red and spicy, which we had for dessert after roast frog, baked roots, and savory herb gravy. The way the kids headed for the creek with the dishes after we were done was a revelation to me; it was never thus when I took them on a camping trip.

Pat, after all, was only three. I knew better than to try to put her to bed while things were still happening, but she'd had a long day, and after dinner was over she stole away to her nest in the dry leaves. When I slipped in with a blanket to cover her up, I could see that she had something snuggled up under her chin. As I gently unclasped her fingers she stirred in her sleep and murmured: "Wabbit."

I thought at first that she had brought her woolly dog back from the house, but the thing's shape was wrong. I took it out to the fire. It was about the size of my two fists, and covered with long, silky gray fur like an Angora cat. It was warm, and as I held it I could feel a pulse beating in it, but it had no eyes, no ears, no features of any kind. Whatever it was, it was no rabbit.

It puzzled Smitty, too. The creatures of this "other" world were on the whole much like our own—animallike, birdlike, fishlike—but this was like nothing either of us had ever seen. Crowding close to stare at it, Mike jogged my elbow and I dropped the thing. It didn't fall! It hung like a tiny, furry balloon in midair!

Smitty looked at me and I at him. Up to now this second world had been a pretty ordinary sort of place, quiet and unspectacular, like a park on a week day. But this "rabbit" of Pat's belonged in no zoo that we had ever seen. What other surprises were waiting for us, I wondered.

I slid my hand under the thing. It yielded readily, although there was a bit of resistance, as though the air had thickened around it. I let go and it hung there. I prodded it with my forefinger, and it began to change.

It had been a furry ball. It dwindled and lengthened, its fur grew sparser and spotted with black. It changed again, flattening into a kind of leathery pancake, then began to grow again, swelling to the size of a basketball. Fur appeared on it again, splotched at first, then

fading to the same silver gray that it had been at first.

Smitty had a queer look on his face. It was as though he had seen some significance in the changes the thing had undergone—as though the senseless metamorphosis had a pattern for him. He was half puzzled, half troubled.

"Hold on to it a minute," he said. "I want to try something. I've got me an idea."

I picked the thing up gingerly, but it lay quiet in my palm. There was that same faint resistance I had noted before, a vague pressure when I moved it. I cupped both hands under it while Smitty touched it gently with his fingertips, exploring its surface, his eyes staring past it. He moved closer, and I saw suddenly that his hands were gone to the wrists—that he was feeling his way slowly into that elsewhere from which he pulled pans of cookies and future wallets. It was uncanny to watch him, groping invisibly, his arms melting away as he pushed them farther into nowhere, exploring unseen contours of the furry thing.

Then the thing jerked in my hands. I dropped it, startled. Smitty pulled one hand back and reached far into nowhere with the other, shoulder-deep, a grin of satisfaction growing on his face. The thing jerked again—and disappeared. Smitty retrieved his missing arm. The sleeve was slashed and his wrist was bleeding.

"Thing scratched me," he said. "Didn't like the way I tickled it, I guess."

A ball of silver fluff that snuggles against a little girl's cheek is one thing; a thing that scratches like a wild cat is another. Mike's eyes were round, and I could see that he was full of questions. I forestalled them.

"Pat's been asleep for an hour," I told him. "It's past your own bedtime—even for camping out. We'll tell you the whole thing in the morning."

He's a good kid; he went without a word, but I knew he was lying awake in his bed of leaves and grass, listening with all his ears. I didn't want the nightmares that were whirling through my head to get started in his; I beckoned to Smitty and we strolled away from the fire, down toward the creek. The stars overhead were very bright. I thought I could trace familiar constellations, but the brightnesses were all different. I wondered whether there was a moon like ours.

"What happened?" I asked Smitty.

He thought for a moment. "I dunno, exactly," he said. "I read a couple of books one time, about the way I am and stuff like that. Fourth-dimension stuff. Tesseracts, and that. You ever seen it?"

I had. I've read my share of science fantasies.

His blue eyes were very serious now. "You know how it goes, then," he said. "Cross-section of a line makes a point. Cross-section

of a surface makes a line. Cross-section of a solid makes a plane. Well, you go one step farther and take a section of something that's got four dimensions, and you've just naturally got something solid. That's how I figure Pat's rabbit."

It's the way I'd been figuring myself, when I saw how he was tracing its shape through invisibility. When the thing changed shape, then, it meant that the greater thing—outside—was moving, and that our three-dimensional world was cutting a different section from its four-dimensional shape.

"Why does it hang there like that, without any support?"

"It's a section," he said promptly. "It won't move less'n the real outside thing moves. Then it'll more likely change shape—like it does—than move."

"Then how does it happen that we can pick it up and carry it around?" I demanded. "It doesn't make sense."

He scratched his head. "I figured you'd ask that," he admitted. "I dunno the answer. All I know is, I reached in and felt around where there'd ought to be more of it, and there was. I got scratched, didn't I?"

"What did it feel like?" I asked. "What does it look like?"

He scowled. "I can't answer that," he complained. "It don't make sense. Look—this thing's got four dimensions; we got three. We got no way of seeing anything like that. I don't see it—I just have a way of knowing where it is. Sometimes it works out and sometimes it don't. How's a square supposed to look to a straight line?"

He had me there. Anyone who leads a normal, solid, three-dimensional existence has no way of even imagining what a four-dimensional something would look like. There's nothing in our whole experience to work on. Smitty, with his crossed-up senses, might have been able to get something, but he said not.

"O. K.," I said. "Let's get some sleep."

Did I say sleep? I didn't do any sleeping. I lay there in the hay listening to the children's quiet breathing and Smitty's mellow snore, watching the stars go past. And I wondered. I wondered who would bury me when I got so old that I couldn't totter around this God-forsaken garden any more. I wondered what Eleanor would do when they came back without me, and what the police would think, and who she'd marry after they got accustomed to the idea that I was dead. I wondered whether Smitty and the kids would come back to see me now and then, and how long it would be before the kids outgrew the knack. I wondered who'd be filling my job at the works, and where they'd find another tenor for the club quartet, and how long there'd be gas rationing. You know how it is—

Smitty didn't worry any that I could see, but when he woke up he had the whole thing worked out. He foraged us a breakfast that was

mainly creek water and some kind of golden, plum-shaped fruit that tasted like slightly acid honey. He cleaned up, loaded the pack, and saddled it on Mike. Then he picked me up like a June bride.

It was as easy as that. He made me close my eyes and hold my breath, so that I wouldn't wiggle in the wrong key at the wrong moment, and then he just walked right on through. When I opened my eyes again I was staring up into Eleanor's face.

"You might have told me you'd be home," she said. "I'd have left a note for the milkman."

There you have female logic in a nutshell. She was right there in the kitchen when we came through. She must have seen the four of us just solidify in thin air like something in Thorne Smith. But she was sober, and sober women don't see that kind of thing. So she didn't see it. So it didn't happen. So we'd been over on the hill back of Hanson's pond, where we usually camp. I raised an eyebrow at Smitty. Should we ask for trouble by trying to sell four dimensions to a woman who was content with three? We should not.

It was an easy resolution to make. No sooner was it in the book than Pat came trotting out of the playroom the kids have off the kitchen with something in her arms. She held it up for her mother to see.

"Wabbit!" she crowed.

This one was white, with lumps. It had the same long fur, and nothing else. It could have been another slice of the first one, if that hadn't "gone out" when Smitty reached around back of beyond and tickled its dimity.

Eleanor didn't care what it was. She took one close look and knew it was no rabbit. To a woman the unknown is perilous—and I think they've got something there. She made a polite face, took it quietly out of Pat's hands as though it had been steeped in smallpox, and pushed it at Smitty.

"Nasty!" she said firmly. "Take it away, Smitty. Pat is going to take a bath."

So there you have it. Pat seemed to be satisfied; she's campaigned for rabbits before, and knows how far she's likely to get where they're concerned. I nudged Smitty.

"Bring it down into the cellar," I told him. "You got rid of the other one all right."

The three of us went down into the corner behind the coal bin where Eleanor couldn't see us from the stairs. Smitty reached into no place right up to his shoulders and twiddled and tweaked and all but pulled the thing's tail, if it had a tail, but to no avail. Maybe there was no ticklish spot within reach. Maybe this one liked being tickled. I dunno. I can tell you Smitty's version, though. He claims that Pat picked the thing up like the brass ring on a merry-go-round, on her way through. He maintains that it didn't belong in either world until she took it there, and then, of course, there was no reason why a four-dimensional whatsit shouldn't have

cross-sections in both worlds as well as one. Maybe it makes sense to you.

We were stuck with it; that much was plain. All Smitty's prodding and poking had just one result: the thing swelled up to about the size of a watermelon—one of the striped ones—and stayed that way. We settled on the chicken coop as the most out-of-the-way place for it, and left it floating about ten feet up in the air, so the kids couldn't get at it. Mike watched the whole thing, of course, but he's a good kid and practically ten, and he knows what thing's aren't good politics. Most kids do, his age.

I went out myself and turned a flashlight on it, a couple of times in the next week, to see if it was doing anything. It wasn't. It didn't eat. It didn't breathe. It didn't do anything. And the hens didn't mind. So I sort of forgot it.

I guess you remember what happened to me that summer. The cattle raisers and the meat packers were holding out in the hope that something or somebody would force the retail ceilings up to where they could get them a couple extra dollars for the stuff on the hoof and in the large. The army and navy were getting what there was, and the rest of us were getting used to spaghetti and greens. I'm not complaining, mind you. We had as much as anybody, and we had Smitty make it palatable, but that wasn't much.

One by one the hens went the way of all fowl. Eleanor, being up to her ears in civilian mobilization stuff, had committees here and committees there, and they all liked to meet for lunch and argue over a club sandwich or a plate of chicken salad. When the hotel lunchroom closed down they started to meet around at members' homes, only mostly they met at ours. And then the Big Shot decided to give Madisonville the once-over.

I will swear to this day that someone reported to Washington on Eleanor's committee luncheons. From the start there was no question of her going anywhere else. There was to be a Big Shot and an Assistant Big Shot—male—and a lesser shot from Albany to represent the state O. C. M. There would be Notables and there would be the Press. That last was all right; the Press could eat spaghetti on the back porch with the kids and me if it had to, and it wouldn't kick too hard. I've thrown too many good stories its way.

Only at that moment there were just four old hens in the coop—four hens and a speckled rooster. I had known them as a boy. I had grown up with them. The fact that they were alive was as much sentimental attachment as it was a certain skepticism that even Smitty could do anything with their leathery carcasses. At least, we'd never dared to put the matter to a test.

Smitty is a man! Eleanor went to him when she got the telegram and laid the cards on the table. If Madisonville had other plans for the 25th, the Big Shot could go to Utica. Utica, which was apparently

in the heart of the beef belt, was eager for the honor. There it was. Smitty grinned his friendly grin and asked how many there'd be.

Let me say right now that I am not going to hint vaguely at dark and dirty plots or corruption in the Madisonville O. C. M. Mrs. Dudley Winthrop happened to be our next-door neighbor—she was going to let the kids bunk with her Tommy while the shindig was on—and she happened to have been Eleanor's rival for the chairmanship of the mobilization office. Beyond that it's coincidence—and the family jinx.

Because at daybreak on the 25th of June, or thereabouts, Smitty came to me with the only worried look I've ever seen on his homely pan. It had to be pretty bad, because every last detail had been polished off so many times that even I knew them by heart. There was nothing, short of a typhoon, that could possibly spoil the set-up. Typhoons—and Winthrops' dog. Where there had been five fat fowl, set for the fricassee, there were five mangled corpses, fit for nothing at all. Smitty looked as sick as I felt. I knew what this was going to do to Eleanor. And then I saw a calculating sort of gleam come into his bright-blue eyes.

"I got me an idea, boss," he said thoughtfully, "and I bet it'll work. Yep—I think we're all right."

Time went by like quicksilver that day. Eleanor herded in the quartet of high-school girls who were going to serve—Victory Corps members, every one of 'em, and wearing their armbands to prove it—and Smitty started to whip them into shape. I heard him whistling happily while he worked, and pretty soon I smelled the unmistakable fragrance of roast meat.

The ladies of the O. C. M. smelled it, too, and I saw their eyebrows stretching as they figured out ways and means of checking on the local Black Market as soon as they got home. If Smitty had taken a chance on B. M. meat, Eleanor's career was a dead duck and so was mine—but it didn't smell to me like any meat I'd ever met. I hoped to high heaven it was unrationed, even if it had to be grilled skunk.

As for the Super Big Shot and all the lesser Big Shots, right down to Eleanor's fourth assistant in charge of nonexistent gas masks, they frankly drooled. It did me good to watch them.

Even with the preliminaries Smitty was outdoing himself, and he had those four kids trained like Rockettes. There was never a meal like it in Madisonville. We worked our way through one course after another, our noses tilted all the time for that elusive, meaty fragrance which was wafted our way every time one of the girls opened the kitchen door.

And then it came. It was one of Smitty's special fricassees, or goulashes, or ragouts, or whatever you want to call them. It was flavored with herbs that most people had never heard of, and blended with outlandish wild mushrooms that

most people would avoid like smallpox. There were other things in it that were pure Smitty. And above all it had meat: big chunks of meat, tender, and savory, and full of a strange, gamey quality like nothing I had ever tasted. It was superb!

Dessert, though I doubt that such nectar has ever before or since graced a Madisonville table, was an anticlimax. The coffee, though it contained neither acorns nor oak sawdust, was just coffee. We settled down to endure the speeches.

Eleanor is a wise woman. She took three minutes and used one. The Middling Big Shot from Albany was assigned five and was just warming up after ten, by way of introducing the Assistant Big Shot, who in turn would make a slightly longer speech in introduction of the real Super Big Shot in whose honor, et cetera we were all gathered. About the middle of his second ten minutes I felt something wriggle under my belt.

It was the damnedest feeling! Those college boys who swallowed live goldfish back in the snorting '30s must have had the same sensation. It was like live waltzing mice, careening around just north of my duodenum, jostling and bumping each other as they went around. I stared across the table at Eleanor, and I could tell by the look of horror on her face that she was feeling the same thing. I looked at the speaker, and I could see the beads of sweat standing out on his forehead and upper lip. I could see his vest buttons jiggle as an extra hard bump hit him.

It was the same with all of them. They were playing up nobly and smiling like grim death, but it was getting them. They couldn't take much more. Then the kitchen door opened a crack and one side of Smitty's face appeared in the opening. His freckles stood out like the splotches on a sparrow's egg, and his visble eye rolled wildly until it found me. This was no time to hang on false etiquette. I murmured excuses and took off.

The kitchen was a shambles. The girls had crammed themselves through the back door and were watching in fascinated horror from the porch. The caldron in which Smitty had stewed up his ragout stood on the kitchen table, and out of it, like a ferment of dripping red balloons, crowded swollen chunks of well-cooked meat—chunks that were growing larger with every moment.

Smitty slid the door shut behind us. "Boss," he whispered hoarsely, "I shouldn't of tried it. It's still alive!"

The thing hit me like a pail of cold water and left me shaking in my shoes. That was it, of course! The cross-section was solid meat, so he'd fricasseed it. And carved or stewed, that cross-section was still part of an n-dimensional what-is it over back of nowhere, who didn't like to have its cross-sections eaten and was going away where it wouldn't be misused. Whatever

effect our own machinations had had on it—and evidently we had had a pretty potent effect, because the chunks were still chunks—that cross-section was going to get back into its normal shape somehow, and do it soon, and when that happened we who'd partaken thereof—

Smitty was peeling off his apron. "Boss," he said, "I swear I didn't mean it. I figured if it was cooked, it was cooked. I figured it'd never miss one little slice out of the whole thing. I gotta get to it. I gotta get it out of here."

Before I could stop him he had plunged both arms into the squirming mess of stew. They melted away like wax—to the elbows—to the shoulders. His head and shoulders followed; he was a pair of trunkless legs; he was gone. And inside me that four-dimensional fricassee gave one last startled kick and dissolved. I gulped.

The cold sweat was pouring down my back. Three of the girls came shuffling into the kitchen, dragging the third, who had fainted when she saw Smitty, stew and all vanish into thin air. I gave them a sickly grin.

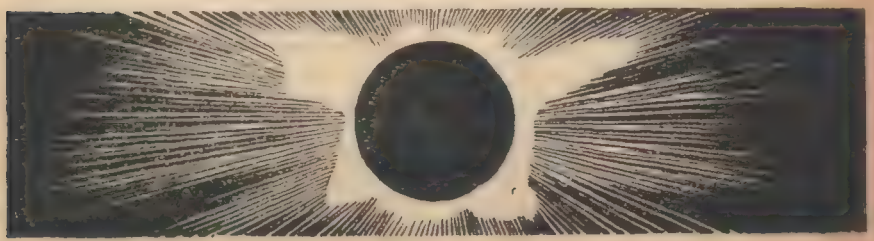
"Magic!" I croaked. "Tricks. He'd oughta known better." I fished some folding money out of my pants. "Clean up, will you, kids?"

I slid open the kitchen door far enough so that I could see Eleanor. The glassy look had gone from the Assistant Big Shot's eyes. He finished his introduction and the Super Big Shot got up. She paid due tribute to her hostess, spoke favorable of the Madisonville O. C. M., and started her routine spiel. When she was starting on her fifth breath I slipped back into my seat. Across the table, Eleanor smiled sweetly at me and nodded.

Well, there you have it. Smitty was gone. The ump-dimensional "rabbit" was gone. Eleanor had served a super-duper of a dinner to twenty-odd people who stuffed to the gills and went home happy with next to nothing in their stomachs. The honor of the Madisonville O. C. M. was unsullied.

I'd give it all up to have Smitty back. Try as I will, I just can't cook.

THE END.



The Iron Standard

by Lewis Padgett

Padgett *presents a neat problem in how to earn a living in a rigidly frozen economy. The explorers had inventions to sell—but there was a law against inventions!*

Illustrated by Kramer

"So the ghost won't walk for a year—Venusian time," Thirkell said, spooning up cold beans with a disgusted air.

Rufus Munn, the captain, looked up briefly from his task of de-cockroaching the soup. "Dunno why we had to import these. A year plus four weeks, Steve. There'll be a month at space before we hit Earth again."

Thirkell's round, pudgy face grew solemn. "What happens in the meantime? Do we starve on cold beans?"

Munn sighed, glancing through the open, screened port of the spaceship *Goodwill* to where dim figures moved in the mists outside. But he didn't answer. Barton Underhill, supercargo and handy man, who had wangled his passage by virtue of his father's wealth, grinned tightly and said, "What d'you expect? We

don't dare use fuel. There's just enough to get us home. So it's cold beans or nothing."

"Soon it will be nothing," Thirkell said solemnly. "We have been spendthrifts. Wasting our substance in riotous living."

"Riotous living!" Munn growled. "We gave most of our grub to the Venusians."

"Well," Underhill murmured, "they fed us—for a month."

"Not now. There's an embargo. What do they have against us, anyhow?"

Munn thrust back his stool with sudden decision. "That's something we'll have to figure out. Things can't go on like this. We simply haven't enough food to last us a year. And we can't live off the land—" He stopped as someone unzipped the valve screen and entered, a squat man with high cheekbones and a beak of a nose in a red-bronze face.

"Find anything, Redskin?" Underhill asked.

Mike Soaring Eagle tossed a plastisac on the table. "Six mushrooms. No wonder the Venusians use hydroponics. They have to. Only fungi will grow in this sponge of a world, and most of that's poisonous. No use, skipper."

Munn's mouth tightened. "Yeah. Where's Bronson?"

"Panhandling. But he won't get a *fal*." The Navaho nodded toward the port. "Here he comes now."

After a moment the others heard Bronson's slow footsteps. The engineer came in, his face red as his hair. "Don't ask me," he murmured. "Don't say a word, anybody. Me, a Kerry man, trying to bum a lousy *fal* from a shagreen-skinned so-and-so with an iron ring in his nose like a Ubangi savage. Think of it! The shame will stay with me forever."

"My sympathy," Thirkell said. "But did you get any *fals?*"

Bronson glared at him. "Would I have taken his dirty coins if he'd offered them?" the engineer yelled, his eyes bloodshot. "I'd have flung them in his slimy face, and you can take my word for it. *I* touch their rotten money? Give me some beans." He seized a plate and morosely began to eat.

Thirkell exchanged glances with Underhill. "He didn't get any money," the latter said.

Bronson started back with a snort. "He asked me if I belonged to the Beggars' Guild! Even tramps have to join a union on this planet!"

Captain Munn scowled thoughtfully. "No, it isn't a union, Bronson, or even much like the medieval guilds. The *tarkomars* are a lot more powerful and a lot less principled. Unions grew out of a definite social and economic background, and they fill a purpose—a check-and-balance system that keeps building. I'm not talking about unions; on Earth some of 'em are good—like the Air Transport—and some are graft-ridden, like Undersea Dredgers. The *tarkomars* are different. They don't fulfill any productive purpose. They just keep the Venusian system in its backwater."

"Yes," Thirkell said, "and unless we're members, we aren't allowed to work—at anything. And we can't be members till we pay the initiation fee—a thousand *sofals*."

"Easy on those beans," Underhill cautioned. "We've only ten more cans."

There was silence. Presently Munn passed cigarettes.

"We've got to do something, that's certain," he said. "We can't get food except from the Venusians, and they won't give it to us. One thing in our favor: the laws are so arbitrary that they can't refuse to *sell* us grub—it's illegal to refuse legal tender."

Mike Soaring Eagle glumly sorted his six mushrooms. "Yeah. *If* we can get our hands on legal tender. We're broke—broke on Venus—and we'll soon be starving to death. If anybody can figure out an answer to that one—"

This was in 1964, three years after the first successful flight to Mars, five years since Dooley and Hastings had brought their ship down in Mare Imbrium. The Moon, of course, was uninhabited, save by active but unintelligent algae. The big-chested, alert Martians, with their high metabolism and their brilliant, erratic minds, had been friendly, and it was certain that the cultures of Mars and Earth would not clash. As for Venus, till now, no ship had landed there.

The *Goodwill* was the ambassador. It was an experiment, like the earlier Martian voyage, for no one knew whether or not there was intelligent life on Venus. Supplies for more than a year were stowed aboard, dehydrates, plastibulbs, concentrates, and vitamin foods, but every man of the crew had a sneaking hunch that food would be found in plenty on Venus.

There was food—yes. The Venusians grew it, in their hydroponic tanks under the cities. But on the surface of the planet grew nothing edible at all. There was little animal or bird life, so hunting was impossible, even had the Earthmen been allowed to retain their weapons. And in the beginning it had seemed like a gala holiday after the arduous space trip—a year-long fete and carnival in an alien, fascinating civilization.

It was alien, all right. The Venusians were conservative. What was good enough for their remote ancestors was quite good enough for them. They didn't *want* changes, it seemed. Their current set-up had worked O. K. for centuries; why alter it now?

The Earthmen meant change—that was obvious.

Result: a boycott of the Earthmen.

It was all quite passive. The first month had brought no trouble; Captain Munn had been presented with the keys of the capital city, Vyring, on the outskirts of which the *Goodwill* now rested, and the Venusians brought food in plenty—odd but tasty dishes from the hydroponic gardens. In return, the Earthmen

were lavish with their own stores, depleting them dangerously.

And the Venusian food spoiled quickly. There was no need to preserve it, for the hydroponic tanks turned out a steady, unfailing supply. In the end the Earthmen were left with a few weeks' stock of the food they had brought with them, and a vast pile of garbage that had been lusciously appetizing a few days before.

Then the Venusians stopped bringing their quick-spoiling fruits, vegetables, and meat-mushrooms and clamped down. The party was over. They had no intention of harming the Earthmen; they remained carefully friendly. But from now on it was Pay as You're Served —and no checks cashed. A big meat-mushroom, enough for four hungry men, cost ten *fals*.

Since the Earthmen had no *fals*, they got no meat-mushrooms—nor anything else.

In the beginning it hadn't seemed important. Not until they got down to cases and began to wonder exactly how they could get food.

There was no way.

So they sat in the *Goodwill* eating cold beans and looking like five of the Seven Dwarfs, a quintet of stocky, short, husky men, big-boned and muscular, especially chosen for their physiques to stand the rigors of space flight—and their brains, also specially chosen, couldn't help them now.

It was a simple problem—simple and primitive. They, the representatives of Earth's mightiest culture, were hungry. They would soon be hungrier.

And they didn't have a *fal*—nothing but worthless gold, silver and paper currency. There was metal in the ship, but none of the pure metal they needed, except in alloys that couldn't be broken down.

Venus was on the iron standard.

"—there's got to be an answer," Munn said stubbornly, his hard-bitten, harsh face somber. He pushed back his plate with an angry gesture. "I'm going to see the Council again."

"What good will that do?" Thirkell wanted to know. "We're on the spot, there's no getting around it. Money talks."

"Just the same, I'm going to talk to Jorust," the captain growled. "She's no fool."

"Exactly," Thirkell said cryptically.

Munn stared at him, beckoned to Mike Soaring Eagle, and turned toward the valve. Underhill jumped up eagerly.

"May I go?"

Bronson gloomily toyed with his beans. "Why do *you* want to go? You couldn't even play a slot machine in Vyring's skid row—if they had slot machines. Maybe you think if you tell 'em your old man's a Tycoon of Amalgamated Ores, they'll break down and hand out meal tickets—eh?"

But his tone was friendly enough, and Underhill merely grinned. Captain Munn said, "Come along, if you want, but hurry up." The three

men went out into the steaming mists, their feet sloshing through sticky mud.

It wasn't uncomfortably hot; the high winds of Venus provided for quick evaporation, a natural air conditioning that kept the men from feeling the humidity. Munn referred to his compass. The outskirts of Vyring were half a mile away, but the fog was, as usual, like pea soup. On Venus it is always bird-walking weather. Silently the trio slogged on.

"I thought Indians knew how to live off the land," Underhill presently remarked to the Navaho. Mike Soaring Eagle looked at him quizzically.

"I'm not a Venusian Indian," he explained. "Maybe I could make a bow and arrow and bring down a Venusian—but that wouldn't help, unless he had a lot of *sofals* in his purse."

"We might eat him," Underhill murmured. "Wonder what roast Venusian would taste like?"

"Find out and you can write a best seller when you get back home," Munn remarked. "*If* you get back home. Vyring's got a police force, chum."

"Oh, well," Underhill said, and left it at that. "Here's the Water Gate. Lord—I smell somebody's dinner!"

"So do I," the Navaho grunted, "but I hoped nobody would mention it. Shut up and keep walking."

The wall around Vyring was in the nature of a dike, not a fortification. Venus was both civilized and unified; there were, apparently, no wars and no tariffs—a natural development for a world state. Air transports made sizzling noises as they shot past, out of sight in the fog overhead. Mist shrouded the streets, torn into tatters by occasional huge fans. Vyring, shielded from the winds, was unpleasantly hot, except indoors where artificial air conditioning could be brought into use.

Underhill was reminded of Venice: the streets were canals. Water craft of various shapes and sizes drifted, glided, or raced past. Even the beggars traveled by water. There were rutted, muddy footpaths beside the canals, but no one with a *fal* to his name ever walked.

The Earthmen walked, cursing fervently as they splashed through the muck. They were, for the most part, ignored.

A water taxi scooted toward the bank, its pilot, wearing the blue badge of his *tarkomar*, hailing them. "May I escort you?" he wanted to know.

Underhill exhibited a silver dollar. "If you'll take this—sure." All the Earthmen had learned Venusian quickly; they were good linguists, having been chosen for this as well as other transplanetary virtues. The phonetic Venusian tongue was far from difficult.

It was no trouble at all to understand the taxi pilot when he said no.

"Toss you for it," Underhill said hopefully. "Double or nothing."

But the Venusians weren't gam-

blers. "Double what?" the pilot inquired. "That coin? It's silver." He indicated the silver, rococo filigree on the prow of his craft. "Junk!"

"This would be a swell place for Benjamin Franklin," Mike Soaring Eagle remarked. "His false teeth were made of iron, weren't they?"

"If they were, he had a Venusian fortune in his mouth," Underhill said.

"Not quite."

"If it could buy a full-course dinner, it's a fortune," Underhill insisted.

The pilot, eying the Earthmen scornfully, drifted off in search of wealthier fares. Munn, doggedly plodding on, wiped sweat from his forehead. Swell place, Vyring, he thought. Swell place to starve to death.

Half an hour of difficult hiking roused Munn to a slow, dull anger. If Jorust refused to see him, he thought, there was going to be trouble, even though they'd taken away his guns. He felt capable of tearing down Vyring with his teeth. And eating the more edible portions.

Luckily, Jorust was available. The Earthmen were ushered into her office, a big, luxurious room high above the city, with windows open to the cooling breezes. Jorust was skittering around the room on a high chair, equipped with wheels and some sort of motor. Along the walls ran a slanting shelf, like a desk and presumably serving the same function. It was shoulder-high, but Jorust's chair raised her to its level. She probably started in one corner in the morning, Munn thought, and worked her way around the room during the day.

Jorust was a slim, gray-haired Venusian woman with a skin the texture of fine shagreen, and alert black eyes that were wary now. She climbed down from her chair, gestured the men to seats, and took one herself. She lit a pipe that looked like an oversized cigarette holder, stuffing it with a cylinder of pressed yellow herbs. Aromatic smoke drifted up. Underhill sniffed wistfully.

"May you be worthy of your fathers," Jorust said politely, extending her six-fingered hand in greeting. "What brings you?"

"Hunger," Munn said bluntly. "I think it's about time for a showdown."

Jorust watched him inscrutably. "Well?"

"We don't like being pushed around."

"Have we harmed you?" the Council head asked.

Munn looked at her. "Let's put our cards on the table. We're getting the squeeze play. You're a big shot here, and you're either responsible or you know why. How about it?"

"No," Jorust said after a pause, "no, I'm not as powerful as you seem to think. I am one of the administrators. I do not make the laws. I merely see that they are carried out. We are not enemies."

"That might happen," Munn said

grimly. "If another expedition comes from Earth and finds us dead—"

"We would not kill you. It is untraditional."

"You could starve us to death, though."

Jorust narrowed her eyes. "Buy food. Any man can do that, no matter what his race."

"And what do we use for money?" Munn asked. "You won't take our currency. We haven't any of yours."

"Your currency is worthless," Jorust explained. "We have gold and silver for the mining—it is common here. A *difal*—twelve *fals*—will buy a good deal of food. A *sofal* will buy even more than that."

She was right, of course, Munn knew. A *sofal* was one thousand seven hundred twenty-eight *fals*. Yeah!

"And how do you expect us to get any of your iron money?" he snapped.

"Work for it, as our own people do. The fact that you are from another world does not dispose of your obligatory duty to create through labor."

"All right," Munn pursued, "we're willing. Get us a job."

"What kind?"

"Dredging canals! Anything!"

"Are you a member of the canal dredgers' *tarkomar?*"

"No," Munn said. "How could I have forgotten to join?"

Jorust ignored the sarcasm. "You must join. All trades here have their *tarkomars.*"

"Lend me a thousand *sofals* and I'll join one."

"You have tried that before," Jorust told him. "Our moneylenders report that your collateral was worthless."

"Worthless! D'you mean to say we've nothing in our ship worth a thousand *sofals* to your race? It's a squeeze play and you know it. Our water purifier alone is worth six times that to you."

Jorust seemed affronted. "For a thousand years we have cleansed our water with charcoal. If we changed now, we would be naming our ancestors fools. They were not fools; they were great and wise."

"What about progress?"

"I see no need for it," Jorust said. "Our civilization is a perfect unit as it stands. Even the beggars are well-fed. There is no unhappiness on Venus. The ways of our ancestors have been tested and found good. So why change?"

"But—"

"We would merely upset the *status quo* if we altered the balance," Jorust said decisively, rising. "May you be worthy of your fathers' names."

"Listen—" Munn began.

But Jorust was back on her chair, no longer listening.

The three Earthmen looked at one another, shrugged, and went out. The answer was definitely no.

"And that," Munn said, as they descended in the elevator, "is emphatically that. Jorust plans to have us starve to death. The word's out."

Underhill was inclined to disagree. "She's all right. As she said, she's just an administrator. It's the *tarkomars* who are the pressure group here. They're a powerful bloc."

"They run Venus. I know." Munn grimaced. "It's difficult to understand the psychology of these people. They seem unalterably opposed to change. We represent change. So they figure they'll simply ignore us."

"It won't work," Underhill said. "Even if we starve to death, there'll be more Earth ships later."

"The same gag could work on them, too."

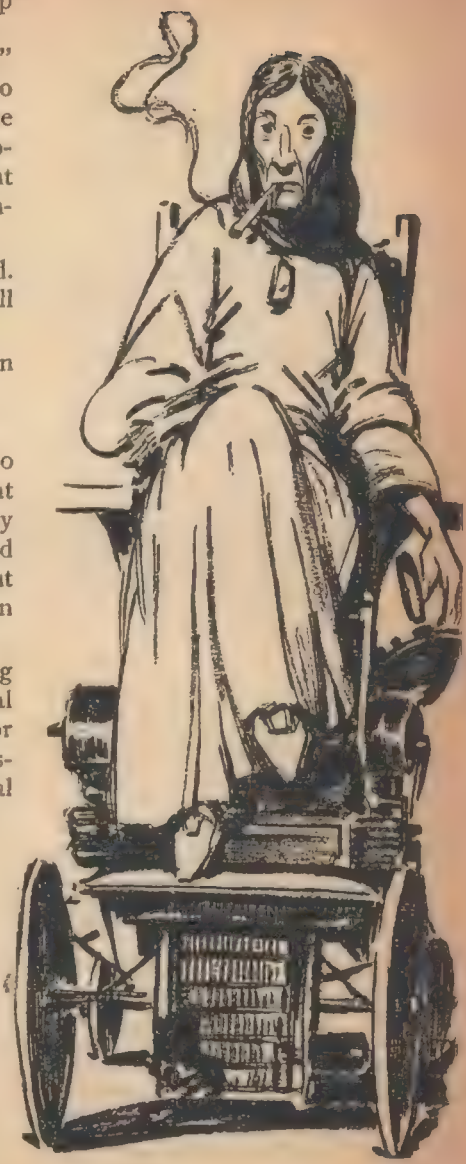
"Starvation? But—"

"Passive resistance. There's no law compelling Venusians to treat with Earthmen. They can simply adopt a closed-door policy, and there's not a thing we can do about it. There's no welcome mat on Venus."

Mike Soaring Eagle broke a long silence as they emerged to the canal bank. "It's a variation of ancestor worship, their psychology. Transferred egotism, perhaps—a racial inferiority complex."

Munn shook his head. "You're drawing it a bit fine."

"All right, maybe I am. But it boils down to worship of the past. And fear. Their present social culture has worked for centuries. They want no intrusions. It's logical. If you had a machine that worked perfectly at the job for which it had been de-



signed, would you want improvements?"

"Why not?" Munn said. "Certainly I would."

"Why?"

"Well—to save time. If a new attachment would make the machine double its production, I'd want that."

The Navaho looked thoughtful. "Suppose it turned out—say—refrigerators. There'd be repercussions. You'd need less labor, which would upset the economic structure."

"Microscopically."

"In that case. But there'd also be a change in the consumer's angle. More people would have refrigerators. More people would make homemade ice cream. Sales on ice cream would drop—retail sales. The wholesalers would buy less milk. The farmers would—"

"I know," Munn said. "For want of a nail the kingdom was lost. You're speaking of microcosms. Even if you weren't, there are automatic adjustments—there always are."

"An experimental, growing civilization is willing to stand for such adjustments," Mike Soaring Eagle pointed out. "The Venusians are ultraconservative. They figure they don't need to grow or change any more. Their system has worked for centuries. It's perfectly integrated. Intrusion of anything might upset the apple cart. The *tarkomars* have the power, and they intend to keep it."

"So we starve," Underhill put in.

The Indian grinned at him. "Looks like it. Unless we can dope out some way of making money."

"We ought to," Munn said. "We were chosen for our I. Q., among other things."

"Our talents aren't too suitable," Mike Soaring Eagle remarked, kicking a stone into the canal. "You're a physicist. I'm a naturalist. Bronson's an engineer, and Steve Thirkell's a sawbones. You, my useless young friend, are a rich man's son."

Underhill smiled in an embarrassed fashion. "Well, dad came up the hard way. He knew how to make money. That's what we need now, isn't it?"

"How did he clean up?"

"Stock market."

"That helps a lot," Munn said. "I think our best plan is to find some process the Venusians really *need*, and then sell it to them."

"If we could wireless back to Earth for help—" Underhill began.

"—then we'd have nothing to worry about," the Navaho ended. "Unfortunately Venus has a Heaviside layer, so we can't wireless. You'd better try your hand at inventing something, skipper. But whether or not the Venusians will want it afterwards, *I* don't know."

Munn brooded. "The *status quo* can't remain permanently that way. It ain't sensible, as my grandfather used to say about practically everything. There are always inventors. New processes—they've got to be assimilated into the social set-up. I should be able to dope out a gadget.

Even a good preservative for foods might do it."

"Not with the hydroponic gardens producing as they do."

"Um-m. A better mousetrap—something useless but intriguing. A one-armed bandit—"

"They'd pass a law against it."

"Well, you suggest something."

"The Venusians don't seem to know much about genetics. If I could produce some unusual foods by crossbreeding . . . eh?"

"Maybe," Munn said. "Maybe."

Steve Thirkell's pudgy face looked into the port. The rest of the party were seated at the table, scribbling on stylopads and drinking weak coffee.

"I have an idea," Thirkell said.

Munn grunted. "I know your ideas. What is it now?"

"Very simple. A plague strikes the Venusians and I find an antivirus that will save them. They will be grateful—"

"—and you'll marry Jorust and rule the planet," Munn finished. "Ha!"

"Not exactly," Thirkell went on imperturbably. "If they're not grateful, we'll simply hold out on the antitoxin till they pay up."

"The only thing wrong with that brainstorm is that the Venusians don't seem to be suffering from a plague," Mike Soaring Eagle pointed out. "Otherwise it's perfect."

Thirkell sighed. "I was afraid you'd mention that. Maybe we could be unethical—just a little, you know—and start a plague. Typhoid or something."

"What a man!" the Navaho said admiringly. "You'd make a grand murderer, Steve."

"I have often thought so. But I didn't intend to go as far as murder. A painful, incapacitating disease—"

"Such as?" Munn asked.

"Diphtheria?" the murderous physician suggested hopefully.

"A cheerful prospect," Mike Soaring Eagle muttered. "You sound like an Apache."

"Diphtheria, beriberi, leprosy, bubonic plague," Pat Bronson said violently. "I vote for all of 'em. Give the nasty little frogs a taste of their own medicine. Wallop 'em good."

"Suppose we let you start a mild plague," Munn said. "Something that couldn't conceivably be fatal—how would you go about it?"

"Pollute the water supply or something . . . eh?"

"What with?"

Thirkell suddenly looked heartbroken. "Oh! *Oh!*"

Munn nodded. "The *Goodwill* isn't stocked for that sort of thing. We're germless. Antiseptic inside and out. Have you forgotten the physical treatment they gave us before we left?"

Bronson cursed. "Never will I forget that—a hypo every hour! Antitoxins, shots, ultraviolet X rays, till my bones turned green."

"Exactly," Munn said. "We're practically germless. It's a precaution they had to take, to prevent our

starting a plague on Venus."

"But we *want* to start a plague," Thirkell said plaintively.

"You couldn't even give a Venusian a head cold," Munn told him. "So that's out. What about Venusian anæsthetics? Are they as good as ours?"

"Better," the physician admitted. "Not that they need them, except for the children. Their synapses are funny. They've mastered self-hypnosis so they can block pain when it's necessary."

"Sulfa drugs?"

"I've thought of that. They've got those, too."

"My idea," Bronson broke in, "is water power. Or dams. Whenever it rains, there's a flood."

"There's good drainage, though," Munn said. "The canals take care of that."

"Now let me finish! Those fish-skinned so-and-sos have hydropower, but it isn't efficient. There's so much fast water all over the place that they build plants wherever it seems best—thousands of them—and half the time they're useless, when the rains concentrate on another district. Half of the plants are inoperable all the time. Which costs money. If they'd build dams, they'd have a steady source of power without the terrific overhead."

"It's a thought," Munn acknowledged.

Mike Soaring Eagle said, "I'll stick to my crossbreeds in the hydroponic gardens. I can raise beefsteak-mushrooms to taste of Worcestershire sauce or something. An appeal to the palate, you know—"

"Fair enough. Steve?"

Thirkell rumpled his hair. "I'll think of an angle. Don't rush me."

Munn looked at Underhill. "Any flashes of intellect, chum?"

The youngster grimaced. "Not just now. All I can think of is manipulating the stock market."

"Without money?"

"That's the trouble."

Munn nodded. "Well, my own idea is advertising. As a physicist, it's in my line."

"How?" Bronson wanted to know. "Demonstrating atom-smashing? A strong-man act?"

"Pipe down. Advertising isn't known on Venus, though commerce is. That's funny. I should think the retailers would jump at the chance."

"They've got radio commercials."

"Stylized and ritualistic. Their televisors are ready-made for splash advertising. A visual blurb . . . yeah. Trick gadgets I could make to demonstrate the products. Why not?"

"I think I'll build an X-ray machine," Thirkell said suddenly, "if you'll help me, skipper."

Munn said sure. "We've got the equipment—and the blueprints. Tomorrow we'll start. It must be pretty late."

It was, though there was no sunset on Venus. The quintet retired, to dream of full-course dinners—all but Thirkell, who dreamed he was eating a roast chicken that abruptly turned into a Venusian and began to devour him, starting at the feet.

He woke up sweating and cursing, took some nembutyl, and finally slept again.

The next morning they scattered. Mike Soaring Eagle took a microscope and other gadgets to the nearest hydroponic center and went to work. He wasn't allowed to carry spores back to the *Goodwill*, but there was no objection to his experimenting in Vyring itself. He made cultures and used forced-growth vitamin complexes and hoped for the best.

Pat Bronson went to see Skottery, head of Water Power. Skottery was a tall, saturnine Venusian who knew a lot about engineering and insisted on showing Bronson the models in his office before they settled down to a talk.

"How many power stations do you have?" Bronson asked.

"Third power twelve times four dozens. Forty-two dozen in this district."

Nearly a million altogether, Bronson made it. "How many in actual operation now?" he carried on.

"About seventeen dozen."

"That means three hundred idle—twenty-five dozen, that is. Isn't the upkeep a factor?"

"Quite a factor," Skottery acknowledged. "Aside from the fact that some of those stations are now permanently inoperable. The terrain changes rapidly. Erosion, you know. We'll build one station on a gorge one year, and the next the water will be taking a different route. We build about a dozen a day. But we salvage something from the old ones, of course."

Bronson had a brainstorm. "No watershed?"

"Eh?"

The Earthman explained. Skottery shook his shoulders in negation.

"We have a different type of vegetation here. There's so much water that roots don't have to strike deeply."

"But they need soil?"

"No. The elements they need are in suspension in the water."

Bronson described how watersheds worked. "Suppose you imported Earth plants and trees and forested the mountains. And built dams to retain your water. You'd have power all the time, and you'd need only a few big stations. And they'd be permanent."

Skottery thought that over. "We have all the power we need."

"But look at the expense!"

"Our rates cover that."

"You could make more money—*difals* and *sofals*—"

"We have made exactly the same profits for three hundred years," Skottery explained. "Our net remains constant. It works perfectly. You fail to understand our economic system, I see. Since we have everything we need, there's no use making more money—not even a *fal* more."

"Your competitors—"

"We have only three, and they are satisfied with their profits."

"Suppose I interest them in my plan?"

"But you couldn't," Skottery said patiently. "They wouldn't be interested any more than I am. I'm glad you dropped in. May you be worthy of your father's name."

"Ye soulless fish!" Bronson yelled, losing his temper. "Is there no red blood in your green-skinned carcass? Does no one on this world know what fight means?" He hammered a fist into his palm. "I wouldn't be worthy of the old Seumas Bronson's name unless I took a poke at that ugly phiz of yours right now—"

Skottery had pressed a button. Two large Venusians appeared. The head of Water Power pointed to Bronson.

"Remove it," he said.

Captain Rufus Munn was in one of the telecasting studios with Bart Underhill. They were sitting beside Hakkapuy, owner of Veetsy—which might be freely translated as Wet Tingles. They were watching the telecast commercial plug for Hakkapuy's product, on the 'visor screen high on the wall.

A Venusian faded in, legs wide apart, arms akimbo. He raised one hand, six fingers spread wide.

"All men drink water. Water is good. Life needs water. Veetsy is good also. Four *fals* buys a globe of Veetsy. That is all."

He vanished. Colors rippled across the screen and music played in off-beat rhythm. Munn turned to Hakkapuy.

"That isn't advertising. You can't get customers that way."

"Well, it's traditional," Hakkapuy said weakly.

Munn opened the pack at his feet, brought out a tall glass beaker, and asked for a globe of Veetsy. It was given him, and he emptied the green fluid into his beaker. After that, he dropped in a half dozen colored balls and added a chunk of dry ice, which sank to the bottom. The balls went up and down rapidly.

"See?" Munn said. "Visual effect. The marbles are only slightly heavier than Veetsy. It's the visual equivalent of Wet Tingles. Show that on the televisor, with a good sales talk, and see how your sales curve jumps."

Hakkapuy looked interested. "I'm not sure—"

Munn dragged out a sheaf of papers and hammered at the breach in the wall. After a time a fat Venusian came in and said, "May you be worthy of your ancestors' names." Hakkapuy introduced him as Lorish.

"I thought Lorish had better see this. Would you mind going over it again?"

"Sure," Munn said. "Now the principle of display windows—"

When he had finished, Hakkapuy looked at Lorish, who shook his shoulders slowly.

"No," he said.

Hakkapuy blew out his lips. "It would sell more Veetsy."

"And upset the economy charts," Lorish said. "No."

Munn glared at him. "Why not? Hakkapuy owns Veetsy, doesn't he? Who are you, anyhow—a censor?"

"I represent the advertisers' *tarkomar*," Lorish explained. "You see, advertising on Venus is strongly ritual. It is never changed. Why should it be? If we let Hakkapuy use your ideas, it would be unfair to other makers of soft drinks."

"They could do the same thing," Munn pointed out.

"A pyramiding competition leading to ultimate collapse. Hakkapuy makes enough money. Don't you, Hakkapuy?"

"I suppose so."

"Are you questioning the motives of the *tarkomars?*"

Hakkapuy gulped. "No," he said hastily. "No, no, no! You're perfectly right."

Lorish looked at him. "Very well. As for you, Earthman, you had better not waste your time pursuing this—scheme—further."

Munn reddened. "Are you threatening me?"

"Of course not. I simply mean that no advertiser could use your idea without consulting my *tarkomar*, and we would veto it."

"Sure," Munn said. "O. K. Come on, Bert. Let's get out of here."

They departed, to stroll along a canal bank and confer. Underhill was thoughtful.

"The *tarkomars* have held the balance of power for a long time, it looks like. They want things to stay as they are. That's obvious."

Munn growled.

Underhill went on, "We'd have to upset the whole apple cart to get anywhere. There's one thing in our favor, though."

"What?"

"The laws."

"How do you figure that out?" Munn asked. "They're all against us."

"So far—yes. But they're traditionally rigid and unswerving. A decision made three hundred years ago can't be changed except by a long court process. If we can find a loophole in those laws, they can't touch us."

"All right, find the loophole," Munn said grumpily. "I'm going back to the ship and help Steve build an X-ray machine."

"I think I'll go down to the stock exchange and snoop," Underhill said. "It's just possible—"

After a week, the X-ray device was finished. Munn and Thirkell looked through the Vyring law records and found they were permitted to sell a self-created device without belonging to a *tarkomar*, provided they obeyed certain trivial restrictions. Leaflets were printed and strewed around the city, and the Venusians came to watch Munn and Thirkell demonstrating the merits of Roentgen rays.

Mike Soaring Eagle knocked off work for the day and recklessly smoked a dozen cigarettes from his scanty store, burning with dull fury as he puffed. He had run into trouble with his hydroponic cultures.

"Crazy!" he told Bronson. "Luther Burbank would have gone nuts—the way I'm going. How the devil

can I cross-pollenate those ambiguous specimens of Venusian flora?"

"Well, it doesn't seem exactly fair," Bronson consoled. "Eighteen sexes, eh?"

"Eighteen so far. And four varieties that apparently haven't any sex at all. How can you cross-breed those perverted mushrooms? You'd have to exhibit the result in a side show."

"You're getting nowhere?"

"Oh, I'm getting places," Mike Soaring Eagle said bitterly. "I'm getting all sorts of results. The trouble is nothing stays constant. I get a rum-flavored fungus one day, and it doesn't breed true—its spores turn into something that tastes like turpentine. So you see."

Bronson looked sympathetic. "Can't you swipe some grub when they're not looking? That way the job wouldn't be a complete washout."

"They search me," the Navaho said.

"The dirty skunks," Bronson yelped. "What do they think we are? Crooks?"

"Mph. Something's going on outside. Let's take a look."

They went out of the *Goodwill* to find Munn arguing passionately with Jorust, who had come in person to examine the X-ray machine. A crowd of Venusians watched avidly. Munn's face was crimson.

"I looked it up," he was saying. "You can't stop me this time, Jorust. It's perfectly legal to build a machine and sell it outside the city limits."

"Certainly," Jorust said. "I'm not complaining about that."

"Well? We're not breaking any law."

The woman beckoned, and a fat Vensuian waddled forward. "Patent three gross squared fourteen two dozen, issued to Metzi-Stang of Mylosh year fourth power twelve, subject sensitized plates."

"What's that?" Munn asked.

"It's a patent," Jorust told him. "It was issued some time ago to a Venusian inventor named Metzi-Stang. A *tarkomar* bought and suppressed the process, but it's still illegal to infringe on it."

"You mean somebody's already invented an X-ray machine on Venus?"

"No. Merely sensitized film. But that's part of your device, so you can't sell it."

Thirkell pushed forward. "I don't need film—"

The fat Venusian said, "Vibrationary patent three gross two dozen and seven—"

"What now?" Munn broke in.

Jorust smiled. "Machines employing vibration must not infringe on that patent."

"This is an X-ray machine," Thirkell snapped.

"Light is vibration," Jorust told him. "You can't sell it without buying permission from the *tarkomar* now owning that patent. It should cost—let's see—five thousand *sofals* or so."

Thirkell turned abruptly and went into the ship, where he mixed a whiskey-and-soda and thought wistfully about diphtheria germs. After a time the others appeared, looking disconsolate.

"Can she do it?" Thirkell asked.

Munn nodded. "She can do it, chum. She's done it."

"We're not infringing on their patents."

"We're not on Earth. The patent laws here are so wide that if a man invents a gun, nobody else can make

telescopic sights. We're rooked again."

Underhill said, "It's the *tarkomars* again. When they see a new process or invention that might mean change, they buy it up and suppress it. I can't think of any gadget we could make that wouldn't be an infringement on some Venusian patent or other."

"They stay within the law," Munn pointed out. "*Their* law. So we can't even challenge them. As long as we're on Venus, we're subject to their jurisprudence."

"The beans are getting low," Thirkell said morosely.

"Everything is," the captain told him. "Any ideas, somebody?"

There was silence. Presently Underhill took out a globe of Veetsy and put it on the table.

"Where'd you get that?" Bronson asked. "It costs four *fals*."

"It's empty," Underhill said. "I found it in an ash can. I've been investigating glassite—the stuff they use for things like this."

"What about it?"

"I found out how they make it. It's a difficult, expensive process. It's no better than our flexiglass, and a lot harder to make. If we had a flexiglass factory here—"

"Well?"

"The bottom would drop out of Amalgamated Glassite."

"I don't get it," Bronson said. "So what?"

"Ever heard of a whispering campaign?" Underhill asked. "My father wangled many an election that way, the old devil. Suppose we passed the word around that there was a new process for making a cheaper, better substitute for glassite? Wouldn't Amalgamated stock drop?"

"Possibly," Munn said.

"We could clean up."

"What with?"

"Oh." Underhill was silent. "It takes money to make money."

"Always."

"I wonder. Here's another idea. Venus is on the iron standard. Iron's cheap on Earth. Suppose we talked about bringing in iron here—strewing it broadcast. There'd be a panic, wouldn't there?"

"Not without some iron to strew around," Munn said. "Counter-propaganda would be telecast; we couldn't compete with it. Our whispering campaign would be squashed before we got it started. The Venusian government—the *tarkomars*—would simply deny that Earth had unlimited iron supplies. We wouldn't profit, anyway."

"There must be some angle," Underhill scowled. "There's got to be. Let's see. What's the basis of the Venusian system?"

"No competition," Mike Soaring Eagle said. "Everybody has all he wants."

"Maybe. At the top. But the competitive instinct is too strong to be suppressed like that. I'll bet plenty of Venusians would like to make a few extra *fals*."

"Where does that get us?" Munn wanted to know.

"The way my father did it. . . .

Hm-m-m. He manipulated, pulled the wires, made people come to him. What's the weak spot in Venusian economy?"

Munn hesitated. "Nothing we can strike at—we're too handicapped."

Underhill shut his eyes. "The basis of an economic and social system is—what?"

"Money," Bronson said.

"No. Earth's on the radium standard. Years ago it was gold or silver. Venus is on iron. And there's the barter system, too. Money's a variable."

"Money represents natural resources—" Thirkell began.

"Man-hours," Munn put in quietly.

Underhill jumped. "That's it! Of course—man-hours! That's the constant. The amount of production a man can turn out in an hour represents an arbitrary constant—two dollars, a dozen *difals*, or whatever it is. That's the base for any economic set-up. And it's the base we've got to hit. The ancestor worship, the power of the *tarkomars*—they're superficial really. Once the basic system is challenged, they'll go down."

"I don't see where it gets us," Thirkell said.

"Make the man-hours variable," Underhill explained. "Once we do that, anything can happen."

"Something had better happen," Bronson said, "and quick. We've little food left."

"Shut up," Munn said. "I think the kid's got the right angle. Alter the man-hour constant, eh? How can we do that? Specialized training? Train a Venusian to turn out twice as much stuff in the same period of time? Skilled labor?"

"They've got skilled labor," Underhill said. "If we could make 'em work faster, or increase their stamina—"

"Benzedrine plus," Thirkell interrupted. "With enough caffeine, vitamin complex, and riboflavin—I could whip up a speeder-upper, all right."

Munn nodded slowly. "Pills, not shots. If this works out, we'll have to do it undercover after a while."

"What the devil will it get us to make the Venusians work faster?" Bronson asked.

Underhill snapped his fingers. "Don't you see? Venus is ultra-conservative. The economic system is frozen static. It isn't adapted to change. There'll be hell popping!"

Munn said, "We'll need advertising to arouse public interest first of all. A practical demonstration." He looked around the table, his gaze settling on Mike Soaring Eagle. "Looks like you're elected, Redskin. You've more stamina than any of us, according to the tests we took back on Earth."

"All right," the Navaho said. "What do I do?"

"Work!" Underhill told him. "Work till you drop!"

It began early the next morning in the main plaza of Vyring. Munn had checked up carefully, determined to make sure nothing would

go wrong, and had learned that a recreation building was to be constructed on the site of the plaza. "Work won't start for several weeks," Jorust said. "Why?"

"We want to dig a hole there," Munn said. "Is it legal?"

The Venusian smiled. "Why, of course. That's public domain—until the contractors begin. But a demonstration of your muscular prowess won't help you, I'm afraid."

"Eh?"

"I'm not a fool. You're trying to land a job. You hope to do that by advertising your abilities. But why do it in just this way? Anybody can dig a hole. It isn't specialized."

Munn grunted. If Jorust wanted to jump at that conclusion, swell. He said, "It pays to advertise. Put a steam shovel to work, back on Earth, and a crowd will gather to watch it. We don't have a steam shovel, but—"

"Well, whatever you like. Legally you're within your rights. Nevertheless you can't hold a job without joining a *tarkomar.*"

"Sometimes I think your planet would be a lot better off without the *tarkomars,*" Munn said bluntly.

Jorust moved her shoulders. "Between ourselves, I have often thought so. I am merely an administrator, however. I have no real power. I do what I'm told to do. If I were permitted, I would be glad to lend you the money you need—"

"What?" Munn looked at her. "I thought—"

The woman froze. "It is not permitted. Tradition is not always wisdom, but I can do nothing about it. To defy the *tarkomars* is unthinkable and useless. I am sorry."

Munn felt a little better after that, somehow. The Venusians weren't all enemies. The all-powerful *tarkomars,* jealous of their power, fanatically desirous of preserving the *status quo,* were responsible for this mess.

When he got back to the plaza, the others were waiting. Bronson had rigged up a scoreboard, in phonetic Venusian, and had laid out mattock, pick, shovel, wheelbarrow and boards for the Navaho, who stood, a brawny, red-bronze figure, stripped to the waist in the cool wind. A few canalboats had stopped to watch.

Munn looked at his watch. "O. K., Redskin. Let's go. Steve can start—"

Underhill began to beat a drum. Bronson put figures on the scoreboard: 4:03:00, Venusian Vyring Time. Thirkell went to a nearby camp table, littered with bottles and medical equipment, shook from a vial one of the stimulant pills he had concocted, and gave it to Mike Soaring Eagle. The Indian ate it, heaved up the mattock, and went to work.

That was all.

A man digging a hole. Just why the spectacle should be so fascinating no one has ever figured out. The principle remains the same, whether it's a steam shovel scooping out half a ton of earth at a bite, or

a sweating, stocky Navaho wielding shovel and pick. The boats grew thicker.

Mike Soaring Eagle kept working. An hour passed. Another. There were regular, brief rest periods, and Mike kept rotating his tools, to get all his muscles into play. After breaking earth for a while with the mattock, he would shovel it into the wheelbarrow, roll his burden up a plank and dump it on an ever-growing pile some distance away. Three hours. Four. Mike knocked off for a brief lunch. Bronson kept track of the time on his scoreboard.

Thirkell gave the Navajo another pill. "How're you doing?"

"Fine. I'm tough enough."

"I know, but these stimulants—they'll help."

Underhill was at a typewriter. He had already ground out a tremendous lot of copy, for he had been working since Mike Soaring Eagle started. Bronson had discovered a long-forgotten talent and was juggling makeshift Indian clubs and colored balls. He'd been keeping that up for quite a while, too.

Captain Rufus Munn was working a sewing machine. He didn't especially like the task, but it was precision work, and therefore helpful to the plan. All the party except Thirkell was doing something, and the physician was busy administering pills and trying to look like an alchemist.

Occasionally he visited Munn and Underhill, collected stacks of paper and carefully sewn scraps of cloth, and deposited them in various boxes near the canal, labeled, "Take One." On the cloth a legend was machine-embroidered in Venusian: "A Souvenir from Earth." The crowds thickened.

The Earthmen worked on. Bronson kept juggling, with pauses for refreshment. Eventually he experimented with coin and card tricks. Mike Soaring Eagle kept digging. Munn sewed. Underhill continued to type—and the Venusians read what his flying fingers turned out.

"Free! Free! Free!" the leaflets said. "Souvenir pillowcase covers from Earth! A free show! Watch the Earthmen demonstrate stamina, dexterity and precision in four separate ways. How long can they keep it up? With the aid of POWER PILLS—indefinitely! Their output is doubled and their precision increased by POWER PILLS—they pep you up! A medical product of Earth that can make any man worth twice his weight in *sofals!*"

It went on like that. The old army game—with variations. The Venusians couldn't resist. Word got around. The mob thickened. How long could the Earthmen keep up the pace?

They kept it up. Thirkell's stimulant pills—as well as the complex shots he had given his companions that morning—seemed to be working. Mike Soaring Eagle dug like a beaver. Sweat poured from his shining red-bronze torso. He drank prodigiously and ate salt tablets.

Munn kept sewing, without missing a stitch. He knew that his products were being scanned closely for signs of sloppy workmanship. Bronson kept juggling and doing coin tricks, never missing. Underhill typed with aching fingers.

Five hours. Six hours. Even with the rest periods, it was grueling. They had brought food from the *Goodwill,* but it wasn't too palatable. Still, Thirkell had selected it carefully for caloric.

Seven hours. Eight hours. The crowds made the canals impassable. A policeman came along and argued with Thirkell, who told him to see Jorust. Jorust must have put a flea in his ear, for he came back to watch, but not to interfere.

Nine hours. *Ten hours.* Ten hours of Herculean effort. The men were exhausted—but they kept going.

They had made their point by then, though, for a few Venusians approached Thirkell and inquired about the Power Pills. What were they? Did they really make you work faster? How could they buy the—

The policeman appeared to stand beside Thirkell. "I've a message from the medical *tarkomar,*" he announced. "If you try to sell any of those things, you go to jail."

"Wouldn't think of it," Thirkell said. "We're giving away free samples. Here, buddy." He dug into a sack and tossed the nearest Venusian a Power Pill. "Two days' work in that instead of your usual one. Come back for more tomorrow. Want one, pal? Here. You, too. Catch."

"Wait a minute—" the policeman said.

"Go get a warrant," Thirkell told him. "There's no law against making presents."

Jorust appeared with a burly, intolerant-looking Venusian. She introduced the latter as head of the Vyring *tarkomars.*

"And I'm here to tell you to stop this," the Venusian said.

Thirkell knew what to say. His companions kept on with their work, but he felt them watching and listening.

"What rule do you invoke?"

"Why . . . why, peddling."

"I'm not selling anything. This is public domain; we're putting on a free show."

"Those . . . ah . . . Power Pills—"

"Free gifts," Thirkell said. "Listen, pal. When we gave all our food to you Venusian crooks, did you squaw? No, you took it. And then clamped down. When we asked for our grub back, you just told us that we had no legal recourse; possession is nine points of the law, and we had a perfect right to make free gifts. That's what we're doing now—giving presents. So what?"

Jorust's eyes were twinkling, but she hooded them swiftly. "I fear he speaks the truth. The law protects him. It is no great harm."

Thirkell, watching her, wondered. Had Jorust guessed the right answer? Was she on their side? The *tarkomar* leader turned dark green,

—darted a deadly sub. Its victims were the men of the Merchant Marine, new to battle. DYNAMITE CARGO, full-length novel by Fred Herman, complete in the new SEA STORY ANNUAL. This annual is composed of the finest sea stories that have been published! Including TOWN-HO'S STORY by Herman Melville, and other distinctive short stories by William Slavens McNutt, Steve Fisher, John T. Rowland, Francis Parkins and Wallace Brooker.

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hesitated, swung on his heel, and went away. Jorust gave the Earthmen a long, enigmatic look, moved her shoulders, and followed.

"I'm still stiff," Mike Soaring Eagle said a week later in the *Goodwill*. "Hungry, too. When do we get grub?"

Thirkell, at the valve, handed out a Power Pill to a Venusian and came back rubbing his hands and grinning. "Wait. Just wait. What's going on, skipper?"

Munn nodded toward Underhill. "Ask the kid. He got back from Vyring a few minutes ago."

Underhill chuckled. "There was hell popping. All in a week, too. We've certainly struck at the economic base. Every Venusian who labors on a piecework basis wants our pills, so he can speed up his production and make more *fals*. It's the competitive instinct—which is universal."

"Well?" Bronson asked. "How do the lizard-faced big shots like that?"

"They don't like it. It's hit the economic set-up they've had for centuries. Till now, one Venusian would make exactly ten *sofals* a week—say—by turning out five thousand bottle caps. With the pills Steve made up, he's turning out eight or ten thousand and making correspondingly more dough. The guy at the next bench says what the hell, and comes to us for a Power Pill for himself. Thus it goes. And the lovely part is that not all the labor is on piecework basis. It can't be. You need tangibles for piecework. Running a weather machine has got to be measured by time—not by how many raindrops you make in a day."

Munn nodded. "Jealousy, you mean?"

Underhill said, "Well, look. A weather-machine operator has been making ten *sofals* a week, the same as a bottle capper on piecework. Now the bottle capper's making twenty *sofals*. The weather-machine man doesn't see the point. He's willing to take Power Pills, too, but that won't step up his production. He asks for a raise. If he gets it, the economy is upset even more. If he doesn't, other weather-machine operators get together with him and figure it's unfair discrimination. They get mad at the *tarkomars*. They strike!"

Mike Soaring Eagle said, "The *tarkomars* have forbidden work to any Venusian taking Power Pillls."

"And still the Venusians ask us for Power Pills. So what? How can you prove a man's been swallowing them? His production steps up, sure, but the *tarkomars* can't clamp down on everybody with a good turnout. They tried that, and a lot of guys who never tried the Power Pills got mad. They were fast workers, that was all."

"The demonstration we put on was a good idea," Thirkell said. "It was convincing. I've had to cut down the strength of the pills—we're running low—but the power of suggestion helps us."

Underhill grinned. "So the base

—the man-hour unit—had gone cockeyed. One little monkey wrench, thrown where it'll do the most good. It's spreading, too. Not only Vyring. The news is going all over Venus, and the workers in the other cities are asking why half of Vyring's laborers should get better pay. That's where the equal standard of exchange helps us—one monetary system all over Venus. Nothing has ever been off par here for centuries. Now—"

Munn said, "Now the system's toppling. It's a natural fault in a perfectly integrated, rigid set-up. For want of a nail the *tarkomars* are losing their grip. They've forgotten how to adjust."

"It'll spread," Underhill said confidently. "It'll spread. Steve, here comes another customer."

Underhill was wrong. Jorust and the Vyring *tarkomar* leader came in. "May you be worthy of your ancestors' names," Munn said politely. "Drag up a chair and have a drink. We've still got a few bulbs of beer left."

Jorust obeyed, but the Venusian rocked on his feet and glowered. The woman said, "Malsi is distressed. These Power Pills are causing trouble."

"I don't know why," Munn said. "They increase production, don't they?"

Malsi grimaced. "This is a trick! A stratagem! You are abusing our hospitality!"

"What hospitality?" Bronson wanted to know.

"You threatened the system," Malsi plunged on doggedly. "On Venus there is no change. There must be none."

"Why not?" Underhill asked. "There's only one real reason, and you know it. Any advances might upset the *tarkomars*—threaten the power they hold. You racketeers have had the whip hand for centuries. You've suppressed inventions, kept Venus in a backwater, tried to drive initiative out of the race, just so you could stay on top. It can't be done. Changes happen; they always do. If we hadn't come, there'd have been an internal explosion eventually."

Malsi glared at him. "You will stop making these Power Pills."

"Point of law," Thirkell said softly. "Show precedent."

Jorust said, "The right of free gift is one of the oldest on Venus. That law could be changed, Malsi, but I don't think the people would like it."

Munn grinned. "No. They wouldn't. That would be the tip-off. Venusians have learned it's possible to make more money. Take that chance away from them, and the *tarkomars* won't be the benevolent rulers any more."

Malsi turned darker green. "We have power—"

"Jorust, you're an administrator. Are we protected by your laws?" Underhill asked.

She moved her shoulders. "Yes, you are. The laws are sacrosanct. Perhaps because they have always been designed to protect the *tarkomars*."

Malsi swung toward her. "Are you siding with the Earthmen?"

"Why, of course not, Malsi. I'm merely upholding the law, according to my oath of office. Without prejudice—that's it, isn't it?"

Munn said, "We'll stop making the Power Pills if you like, but I warn you that it's only a respite. You can't halt progress."

Malsi seemed unconvinced. "You'll stop?"

"Sure. If you pay us."

"We cannot pay you," Malsi said stubbornly. "You belong to no *tarkomar*. It would be illegal."

Jorust murmured, "You might give them a free gift of—say—ten thousand *sofals*."

"*Ten thousand!*" Malsi yelped. "Ridiculous!"

"So it is," Underhill said. "Fifty thousand is more like it. We can live well for a year on that."

"No."

A Venusian came to the valve, peeped in, and said: "I made twice as many *difals* today. May I have another Power Pill?" He saw Malsi and vanished with a small shriek.

Munn shrugged. "Suit yourself. Pay up, or we go on handing out Power Pills—and you'll have to adjust a rigid social economy. I don't think you can do it."

Jorust touched Malsi's arm. "There is no other way."

"I—" The Venusian by now was almost black with impotent rage. "All right," he capitulated, spitting the words between his teeth. "I won't forget this, Jorust."

"But I must administer the laws," the woman said. "Why, Malsi! The rule of the *tarkomars* has always been unswerving honesty."

Malsi didn't answer. He scribbled a credit check for fifty thousand *sofals*, validated it, and gave the tag to Munn. After that he sent a parting glare around the cabin and stamped out.

"Well!" Bronson said. "Fifty grand! Tonight we eat!"

"May you be worthy of your fathers' names," Jorust murmured. At the valve she turned. "I'm afraid you've upset Malsi."

"Too bad," Munn said hypocritically.

Jorust moved her shoulders slightly. "Yes. You've upset Malsi. And Malsi represents the *tarkomars*—"

"What can he do about it?" Underhill asked.

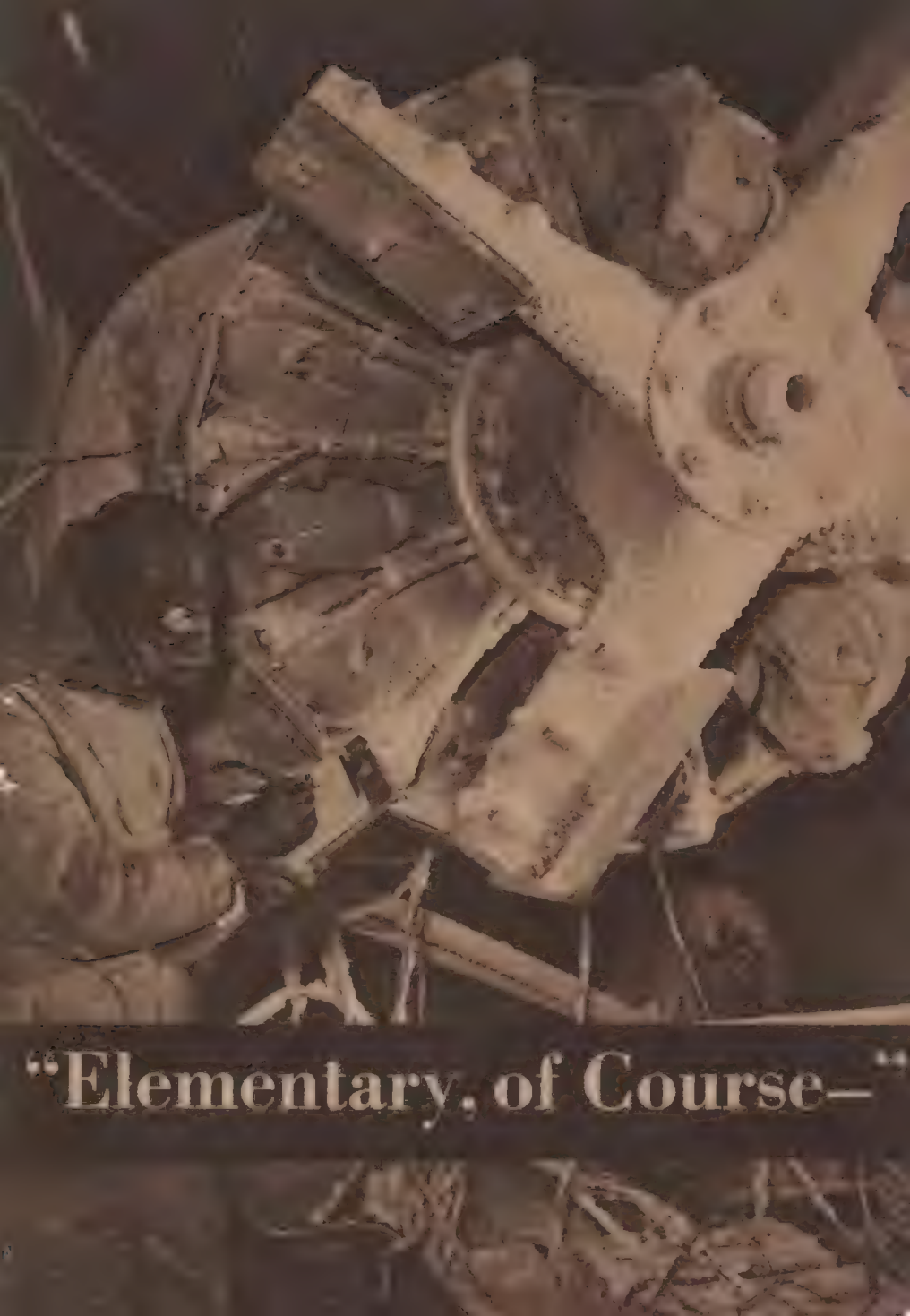
"Nothing. The laws won't let him. But—it's nice to know the *tarkomars* aren't infallible. I think the word will get around."

Jorust winked gravely at Munn and departed, looking as innocent as a cat, and as potentially dangerous.

"Well!" Munn said. "What does that mean? The end of the *tarkomars'* rule, maybe?"

"Maybe," Bronson said. "I don't give a damn. I'm hungry and I want a beefsteak-mushroom. Where can we cash a check for fifty grand?"

THE END.


"Elementary, of Course—"

It's a problem in subzero engineering to the Wright Aeronautical Co. test engineer, an airplane power plant to most people, but it's also a fairly complete assembly of samples of the ninety-two elements of the chemical universe. Going down the table of elements, you can start with hydrogen—in the gasoline, of course, but also in the various plastic engine parts—and count in helium. They use helium in a new electric-arc welding method for working magnesium, the helium serving to prevent oxidation and to cool the metal; there will be some trapped in the magnesium. Lithium may be present in ceramic material, but we'll have to skip it officially. Beryllium-bronze makes unsurpassed electrical-contact springs. Boro-silicate ceramics are excellent for insulating purposes, and you can find carbon in the steel, as well as the plastic parts and gasoline. Nitrogen goes into plastics, and into case-hardening steel parts. Oxygen in combined form makes the ceramic parts possible; in free form it makes the whole proposition possible. Fluorine probably isn't used in the engine, but it's a fair bet the cooling system of the subzero test chamber uses a chloro-fluoro substituted hydrocarbon as the coolant. Neon is probably used in the test instruments, but not in the engine. Sodium, magnesium, aluminum and silicon can all be found in the ceramic parts, silicon-steel in electrical equipment, and metallic sodium magnesium and aluminum in the engine structure. (Yes—metallic sodium. It's a wonderful cooling medium—if the thing you want to cool is hot enough. It has the highest heat of volitilization of any available substance, and makes possible the enormous power-per-cylinder of the modern engine by cooling the exhaust valves.) Phosphor-bronze electrical contact springs are standard where extreme stresses don't require the costlier beryllium-bronze. Sulphur is the old standby in rubber vulcanization. Some of the oil-resistant synthetic rubber used is a chlorine compound.

You'll find argon in test equipment along with neon. Potassium and calcium play several parts. The storage battery plates contain considerable calcium—it hardens and toughens lead. The bearings probably would yield some, too. Scandium we skip. Titanium as an alloy element in steel is growing in importance, and the dioxide is used in protective paints and ceramics. Vanadium, chromium, manganese, iron, cobalt and nickel are all in the various alloy steels needed. Copper, zinc, and arsenic are used as metals or alloy ingredients. (Arsenic and antimony are helping to replace scarce tin in solders.) Selenium probably sneaked in as an impurity only, but bromine is essential for the heavily doped gasoline.

Krypton and rubidium we'll skip; the latter is probably present as an impurity in the ceramics, though. Strontium may or may not be used in the ceramic parts, but it will certainly accompany the engine in a plane; it's standard in signal flares of various sorts which all pilots carry. Yttrium is skipped. Zirconium is being used in some very special alloy steels, and zirconium oxide—zircons—in some instrument bearings. Columbium, because of its platinumlike resistance to chemical activity, may have played a background part, but not in the engine itself. Molybdenum's there all right, and there are probably some rhodium and palladium-plated parts either in the engine or its accessories. Silver would be present in still greater quantity if the Silver Bloc didn't object to such crass, utilitarian work for their pet metal. As is, you'll find silver in electrical parts as a conductor, as a soldering alloy ingredient, in bearings, and elsewhere.

There isn't space to discuss all the elements, but cadmium, tin, antimony, barium, lanthanum, cerium, tungsten, platinum, iridium, gold, mercury, lead, bismuth, radium, polonium, and thorium all play parts, either directly in the engine, or in direct support of its manufacture. And the engineer's first-aid kit, like the pilot's, is incomplete without iodine.

Penicillium notatum mold, the only now-known source of penicillin, growing in gallon-jug culture bottles at the E. R. Squibb & Sons laboratory.

Master Chemist

by Arthur McCann

***Life** is an immensely intricate chemical process, so producing intricate chemical substances is an old story. But living microorganisms can be bred to produce desired substances—needed drugs—*

One of the oldest biochemical industries known to man—and quite probably the oldest—is based on the busy little yeast plant. Since man was a nomad before he planted grains and made bread, the discovery that yeast could also be used to make bread a food for all, rather than the diet of strong-jawed hemen, was probably accidental. Since that long-gone day, beer and bread have gone down through man's history together—and the chances are exceedingly strong we'll leave bread behind before we leave the industrious little yeast plant. Brewers have for many years produced baker's yeast and other products. They have, naturally, done an immense amount of research on the possibilities of various strains of yeasts, the best chemical and physical conditions for mass production of each type, and the possible products obtainable from yeast.

There are a number of purely chemical methods of producing alcohol—partial oxidation of petroleum gases, a catalytic hydration of acetylene, and half a dozen others. But yeast fermentation of cheap glucose solutions such as sugar-refinery by-products, blackstrap molasses, and the like remains dominant. Fermentation of grain mashes is, of course, the main source of beverage alcohol, but beverage alcohol is a comparatively minor business—as the current war consumption of industrial alcohol has made plain to most people. The chemical substance ethanol—ethyl alcohol, grain alcohol, call it what you will—is a first-rate solvent, a cheap starting material for many synthetic processes, a highly important antiseptic, and a first-rate fuel for special purposes. Biochemical processes carried out by the yeast plant are sufficiently efficient to keep that method of production in business for all the competition of other synthetic processes.

Biochemistry is, and can be, a large-scale, cheap, and efficient method of producing organic compounds—particularly microbiological methods, involving microscopic life-units rather than larger organisms. Of course, lumber is a biochemical business in one sense—but large biological units, trees, are involved. The microbiological processes have several great advantages that put them on a par with straight, nonvital chemical processes; their microscopic units in immense numbers give a statistical resultant rather than an individual-performance result, for one thing. A tree is a tree is a tree may be poetry, but it isn't fact; an individual tree has decidedly different growth patterns, formations, and knot-markings, all of which are an acute annoyance to the plywood-plane designer, who wants identical, predictable performance.

Further, the microbiological processes can be handled like any batch-process chemical reaction involving liquids, and, in special cases, might be handled on a continuous-flow basis.

The possibilities of these industrial biochemical processes have

been investigated far less thoroughly than the nonvital chemical processes —and, perhaps, to our considerable disadvantage. In the last war, an acute shortage of acetone was overcome by the installation of a biochemical process fermenting corn by means of a special "yeast" to produce the desired acetone—and incidentally, a considerable quantity of heavy alcohols that later led indirectly to the postwar lacquer industry. Partial-oxidation techniques developed after the war made it possible to produce acetone more cheaply from hydrocarbon materials, and ended that particular industry. Ordinarily, straight chemical processes can undersell biochemical methods when the product is so simple a compound; the success of the alcohol industry is a tribute to the efficiency of the yeast plants, the technicians who run the fermenting vats, and the biochemists and bacteriologists who cultivated the yeast strains used. (The yeasts bear about as much relationship to the yeasts of ye goode olde days as a modern high-production dairy cow bears to the original wild cattle.)

Biochemical processes, the chemical balance of metabolism, are immensely complex; they depend on intricate and incredibly delicate balancing of several hundred unstable, highly involved organic molecules in a mutual cross-play of instabilities that comes out as a dynamically stable system. With such an exponential series of increasing complexities at work, the production of complex organic substances is fairly simple. Many compounds which seem to involve completely unstable intermediate products in their synthesis are quite easy for biochemical systems to produce—what's one more instability in an already completely unstable system? Industrial biochemical processes are, therefore, apt to have their greatest advantage in fields where complex and difficult syntheses are involved.

Gluconic acid is one product the chemist found extremely difficult, but a particular type of mold makes quite readily. Calcium-gluconate, made by this process, is one of the few calcium compounds that can be injected directly into the bloodstream. Quinine, though analyzed many years ago, remains, unfortunately, a monopoly of the cinchona tree. Atabrine is the chemist's best —and fairly good, though not as good—substitute.

The sulfa drugs have been immensely valuable in aiding man's natural defenses to overcome infection. Thanks to them, it is almost impossible to die of the common types of pneumonia, and several other highly dangerous infections are fought with the sulfa drugs with almost miraculous effect. But the sulfas are essentially toxic—they harm the man as well as his disease, and they leave untouched many another dangerous germ, and several types of pneumonia. Penicillin, derived from the metabolic processes of the mold *penicillium notatum*, is proving to be greatly

The penicillin produced by the mold's life-processes appears in the liquor, here being harvested from "ripe" cultures. It's a slow, expensive system.

superior to the sulfas as germ killers, effective against several types the sulfa drugs won't touch, and far less toxic to man.

At present, penicillin is produced by an extremely expensive, laborious and slow method, involving the culture of the penicillium mold in separate one-gallon culture bottles, followed by extraction of the active substance from the resultant culture liquor. The production per

colony is small, and the mold is sensitive to temperature changes and variations of the culture medium. The work is being pressed because of the very great value of the penicillin as a therapeutic agent.

There are two lines of attack on the problem of greater production, and both are being followed up vigorously. Efforts to analyze the structure of the penicillin are being made, so that synthesis can be attempted. There is always the possibility that it will turn out to be a substance which, like quinine, cannot be practically assembled chemically. (On the other hand, it may turn out to be actually identical with some long-known substance, synthesized years ago, but never considered a drug. Nicotinic acid, described by chemists years ago, turned out to be one of the B-complex vitamins.)

The probabilities are, however, that analysis will be accomplished, and a method of synthesis worked out—sometime in the next three years. In the meantime, the other line of attack is being pushed. *Penicillium notatum* produces penicillin—but in very small amounts. Yeast naturally produces alcohol—but also in very small quantity, for alcohol is a powerful germicide. The highly developed and specialized strains of yeast that can go on producing alcohol even when the percentage mounts up above fifteen percent concentration are yeasts bred by very careful selection. The home-brew and home-baking yeast is a distant relative of the brewer's yeast or the baker's yeast. And each is a distant relative of the special yeasts bred to produce vitamin B complex.

There is no reason to believe that a penicillium mold of immensely increased yield could not be produced, a mutated form that could work in vat batches instead of gallon-jug batches. A strain that was much hardier, and grew at a higher rate. It's a life form—and life forms can be bred to fit a remarkable range of conditions. If a natural environment changes, gets tougher and tougher, life has to adapt—and all life forms remaining on Earth at this late date have as the deepest fundamental of their characteristics a tremendous ability to adapt, to change to fit.

Commercial brewers have made elaborate studies of yeasts. The yeast organism is a true plant cell, and like all plant cells consumes sugar and water and oxygen to produce carbon dioxide and water, if given a chance. Being a particularly tough specimen of plant cell, it can survive even when oxygen is cut off, by oxidizing sugar with water as the oxidizing agent. This reaction is the one that produces carbon dioxide and alcohol. All growing plant cells consume oxygen—the leaves of a tree do so, too, but a second reaction in sunlight, producing sugar and oxygen from water and carbon dioxide and sunlight energy overbalances the first reaction. Whether tree leaf or yeast cell, chemical energy is needed to produce new cell tissue. The plant cell differs from

Many of the culture bottles are needed to produce the tiny ampules of ***concentrated penicillin.*** *Penicillium notatum is a "natural" mold; there hasn't been time for selective breeding to produce a high-yield strain.*

the animal cell primarily in its ability to consume raw, inorganic mineral substances, "raw" chemical energy—sugar—and raw water and oxygen to produce every complex organic compound its metabolism requires. The animal cell must be fed the already-prepared complex proteins to build cells, it must have fats as well as sugars, its minerals must be carefully tied up in complex organic salts. Hemoglobin that every mammal must have in its blood is a slightly modified chloro

phyl—wherefore every animal must, directly or indirectly, consume chlorophyl.

Yeast thrives happily on highly impure sugar—it must be impure; the yeast needs the mineral impurities—and ammonia. From blackstrap molasses and the nitrogen of ammonia, yeast can make vitamin complexes, the proteins and fats it needs in its cell structure, and every complex enzyme and organic catalyst required by its metabolism.

Plant cell or animal cell, some fat and some protein is essential. Because the animal is mobile, and must carry its fuel around with it, the animal developed the highly concentrated fuel supplies far more than the immobile plant did, ordinarily. But plants sometimes want to store energy in concentrated form—seeds, for instance—and can do so when necessary. Yeast can develop energy-storing strains; yeasts that consume sugar to make fats have been known for some time. Such yeasts, when dried and pressed, yield oils, quite normal vegetable oils.

Recently, a yeast strain has been developed which produces proteins —regular animal-food proteins. This strain has been subdivided, and sub-bred for further specializations, till strains producing a high concentration of protein—higher percentage, in fact, than animal tissues—have been produced which also produce flavor compounds very closely akin to those of beef. The resultant washed, dried yeast tastes like beef, and nourishes like beef! The texture is wrong, naturally—but a yeast-beef stew strongly resembles the true beef stew in flavor, texture and nourishment value. The great difference is that the yeast can be grown in vats in one-ton lots in twelve hours from molasses and ammonia, almost without human labor, while the cow takes months, acres, and much labor.

Since beef flavor has been produced, presumably there is no need of monotony. And, of course, no particular reason why the flavor-strains should be held down to imitations of known meat flavors! A mixed culture of protein-yeasts and fat-yeasts, with some vitamin producers and perhaps some carbohydrate-storing yeasts, should make a fairly complete diet, tank-grown without hydroponics, for spaceship use.

More immediately, it points up the neglected possibilities of breeding, of selecting, microorganisms to produce wanted chemical compounds of high complexity. Microorganisms are known to be able to work successfully on practically anything, animal, vegetable, and mineral, known to man. A microorganic symbiosis—the lichen partnership—can claw its way into the barren, sterile rock to dissolve out of that inhospitable medium all the nourishment it needs. One of the most complex fields of organic chemistry—a highly specialized field—is the study of lichen acids. The lichens produce complex—enormously complex—organic acids

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which are so beautifully and perfectly designed that, though corrosive enough to chew holes in granite—literally!—they do not harm the inherently delicate metabolism of the lichen partnership. Those acids serve to etch mineral food for the chlorophyl-bearing algae from the rock, yet do not injure the algae; the algae produce sugars from which the fungus half of the partnership builds its own tissues, and produces the acids. The number of known acids is stupendous; the lichen acids alone probably total far greater numbers than all the non-lichen acids known to chemistry. They are marvelously specialized.

If industrial microbiochemistry could harness them, lichen-type fungi would almost certainly be able to produce undreamed-of and highly selective drugs.

Microorganisms are the alpha and omega of life; they were first on Earth, and they are the final endpoint of life—and everything else—on Earth. The soil bacteria are the ultimate scavengers, a mixed and variegated lot capable of digesting away any organic matter that comes into their realm. They reduce it back to its inorganic elements, forever carrying on their work of purifying the planet—and keeping themselves alive in the process. Inevitably, they have developed digestive ferments on a par, for power, with the corrosive lichen acids. The ultimate disposal of sewage wastes depends on the activities of these harmless—at least non-pathogenic—bacteria. They destroy not only the sewage, but the pathogenic microorganisms associated with it, having a most completely omniverous digestive system.

Use of those powers has already been made. Since a disease-stricken animal's carcass will eventually fall to them, they can destroy not only the animal's body, but the disease-causing organism as well. By taking a hearty, widely mixed collection of soil bacteria, and preparing a culture of them, fed on a very special diet, a powerful therapeutic preparation has been derived. Given a mixture of all types of soil bacteria, feed them an exclusive diet of pneumococcus organisms, say, for two years, and most of the soil bacteria will starve to death. Those that don't will, obviously, have developed a high-power pneumococcus-digesting enzyme. Successive generations of such cultures will eliminate all but the pneumococcus destroyer. From colonies of such selected and specialized bacteria, an extract can be prepared which consists largely of that pneumonia-digesting enzyme.

Soil bacteria can digest *anything* organic. There doesn't appear any sharp limit to the possibilities of specialized digesting enzymes such

Continued on page 178

The tiny ampule of penicillin—that may mean some man's life is saved. So far, production is so slow, expensive, and laborious that the armed forces still need more; only rare, unusual civilian needs can be met.

Extraterrestrial Bacteria

by Willy Ley

The polished surface of a nickel-iron meteorite. The characteristic crystal-structure—found only in meteoric metal—is broken in several places by black pits. Several of these pits were hermetically sealed by solid metal.

***We** know, now, that there are planets circling other stars. Some meteoric material makes the interstellar flight—and life spores can be incredibly hard to kill. Are all Earth's microorganisms native citizens?*

In 1932 Professor Charles B. Lipman reported that he had succeeded in finding living bacteria in meteorites, bacteria which, although similar to forms known on Earth, had to be accepted as extraterrestrial forms.

In 1935 the assistant curator of geology of the Field Museum of Natural History in Chicago, Sharat Kumar Roy, reported that he had repeated Professor Lipman's experiments, but that his results failed to substantiate Lipman's claims.

And since then at least five people have written articles or papers in which they pointed out that Lipman's experiments were bound to be unsuccessful because of the nature of meteorites. If meteorites are taken to be parts of a broken-up planet, the very large majority of them could not harbor bacteria, living or dead, because most of the meteorites would stem from such depths of the planet that there would

Right. Stony-iron meteorite, polished to show structure. This mixed structure offers hiding places for life.

be no bacteria on and in them, even if the original planet had been teeming with life.

If we, the reasoning ran, imagine that the Earth is shattered into a gigantic swarm of meteorites by some cosmic catastrophe, there would be an overwhelming majority of iron meteorites over the comparatively small number of stony meteorites from the outer layers. The ratio is at least something like six thousand to one. And only a very small minority of the stony meteorites would come from layers where bacteria might have been expected before the catastrophe, the probable ratio being somewhat less "favorable" than six thousand to one. To find a meteorite with bacteria in its interior would be one of those practically impossible lucky chances—something like blowing up an enemy ammunition dump with a single bomb that accidentally broke its suspension lug and crashed through the closed door of the bomb bay in the dark of night. It *can* happen—but it is not wise to count on it.

When Professor Lipman started his search for bacteria in meteorites the idea that they *might* exist was a little more than half a century old. That meteorites existed at all had been definitely established for only about a century. But most of that century had been the nineteenth century, and ideas had come thick and fast during that hundred years, some times even faster than nowadays.

The history of the whole thought complex, sketched in outline, had been about as follows: Chladni had established that meteorites actually existed, that these hunks of stone and iron which could be analyzed in the laboratory were actually of extraterrestrial origin. Baron Jöns Jacob Berzelius had just produced sound methods of chemical analysis, which meant that the chemists could go to work. They did and, while they found minor differences which made it possible to tell a meteorite

Left, Bacillus subtilis; center, Staphylococcus albus. Both of these have been found in crushed meteorites, but both are certainly terrestrial. Right, Spirillum rubrum, a reddish bacteria that might be of extraterrestrial origin.

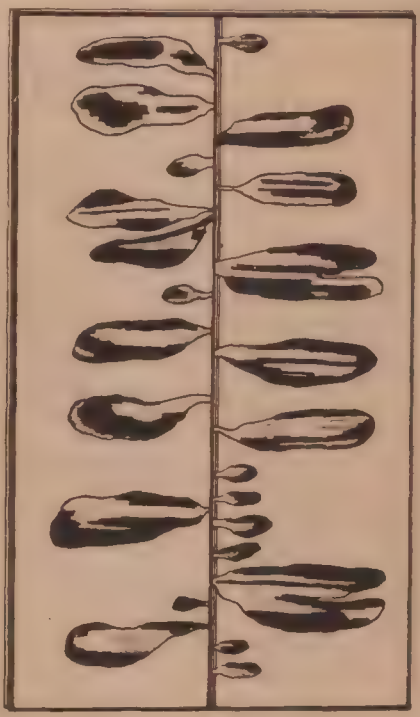
from similar-looking terrestrial material, they also proved that the elements and their combinations were actually the same, the differences had nothing to do with elements and compounds, but with the type of crystallization, arrangement of crystals, proportions of compounds and similar things.

Cosmos and Earth began to look alike from the chemist's point of view, but near the middle of the nineteenth century a famous scientist still stated that the steady spread of knowledge had to stop somewhere, that, for example, nobody would ever be able to tell the chemical composition of the stars. Just about seven years after that speech had been made Kirchhoff and Bunsen discovered spectroanalysis, the chemical composition of the stars became known and was found to amount to a mixture of the same well-known elements of which the more adventurous chemists began to grow tired by then.

That was the astronomical side of the story.

Now the other.

Early in the century telescopes and microscopes both had acquired a higher state of perfection, growing in size, but mainly in performance. The existence of bacteria had been



Left, a "fossil" from the Solnhofen slate quarries that proved to be simply a crystalline growth, and, right, a synthetic dendrite, laboratory grown with two glass plates and a thread dipped in a saturated alum solution.

suspected before; now more and more became known about them. Finally Louis Pasteur proved that certain bacteria caused certain diseases while others were definitely beneficial to human needs. And while Kirchhoff and Bunsen and those chemists who analyzed meteorites proved that the visible universe consists of the same elements, Charles Darwin and his collaborators and colleagues proved that all life was really the same, that there was a definite, though long and involved, chain of relationships between the ordinarily invisible animalcules under the microscope and the microscopist who looked at them.

Now, if the same elements composed the stars and their presumed planets, and if all life on our planet is somehow interrelated, wasn't it reasonable to assume that there was equally related life on those other worlds, too? Life that was related to our life not only in the sense that it consisted of the same elements and presumably of the same compounds with the same functions, but life actually *related* to our life?

The evolutionists required only one or a few little pieces of life at the beginning of the career of the planet Earth. They thought that it had probably originated here on Earth, but the other thought, that it had arrived on Earth, was equally logical. It had arrived many a time, when the planet was still too hot, when the Earth had cooled sufficiently to sustain life and there was a chance that it might arrive again. It was worth anybody's time to watch out for such an event.

Of course, different people expected different things. An astronomer by the name of M. W. Meyer had very substantial hopes. If a planet like the Earth collided with another planet, he reasoned, it would probably explode like an overheated boiler. Life in the air and on the continents would perish instantaneously, but life in the oceans had a chance. The oceans, thrown into space during the explosion, would form watery spheres which would freeze into huge chunks of ice, more or less quickly, according to their size. The fish and starfish and jellyfish in them would freeze, too, but it was known that some animals survived such a treatment. Thus they might travel on and on in space, until the ice chunks crashed on another planet, preferably in the ocean of another planet. There they would thaw and some of the frozen denizens of another planet might come back to life.

We think all this a little crude, but it was eagerly seized upon at the time when Meyer first published his ideas. One writer suggested that the trilobites of the Cambrian period must be such arrivals since nothing is known that existed before them. Another one was even more daring, in his opinion all of Australia had come down from the sky

A collection of the meteoric stones of the Holbrook fall. Life experiments were performed on some of the other specimens of this shower.

in one big crash. There was no other way, he claimed, in which one could account for things like the platypus and the marsupials.

While Meyer wondered about slices of frozen ocean, his compatriot and contemporary, Richter, was more careful. Richter only wanted spores of bacteria from space, spores which are notoriously hard to kill, spores which could be hiding in the protection of the interior of meteorites. It was Richter's speculation which finally resulted in Svante Arrhenius' theory of "panspermy," the theory which let the spores travel by themselves through space, pushed along by the pressure of the light from one of the many suns. Arrhenius was the first who marshaled figures and equations in support of his theory, proving that spores of bacteria could not only survive in space, but that they also were of the proper size to be pushed around by the light waves. Furthermore, that the spores could live long enough for the trips they took.

Arrhenius' theory, after some forty years of life, still finds favor in the eyes of most of the experts concerned and bacteriologists have even pointed out a number of bacteria with strange life habits—some can do without oxygen, some even dislike oxygen, some thrive in hydrogen-chlorine compounds that are poisonous to everything else—and a few have gone so far as to point at specific bacteria as possible recent immigrants. The tetanus bacillus is one of them, and *Spirillum rubrum* another one. Of course, there is no proof either way, but the matter deserves to be kept in mind.

But meantime, before Arrhenius published his hypothesis, another scientist by the name of Hahn had retired into his study and behind his microscope to find alien life in meteorites. He was not successful in finding actual alien life. But he did find—or so he thought—plenty of evidence of alien life. Some meteorites proved to be full of tiny "fossils," some others seemed to consist completely of tiny shells and pieces of shells, much in the manner of a piece of chalk. Hahn's eye had no trouble distinguishing definite shapes and forms. There were parts that looked as if they were the compressed skeletons of fossil sponges; there were others that looked definitely like coral growth.

There exist among our terrestrial fossils slabs of Jurassic slate, formed at the sea bottom apparently not too far from the coast line, which are covered with the remains of so-called crinoids, a now completely extinct form of marine life. These "sea lilies," as they have also been called, belong to the same group of marine creatures as the starfish, but they had enormously long flexible stems, composed of small, thick and round plates, superficially similar to the column of the vertebrae in higher animals. Those slate slabs I have in mind are covered with the round pieces that made up the stems of the sea lilies, a picture that is as difficult to describe as it is easy to remember

once you see it. Hahn had seen those slabs, slabs that looked as if they were thickly strewn with stone coins, about as thick as their radius, and he was surprised and elated when some of his meteorites presented the same picture. His drawings and photographs and notes mounted up, until they finally were published in the form of a big and expensive book, a masterpiece of careful printing.

Meteorites, Hahn announced in this book, fail to harbor life, as life, but fortunately some of the stony meteorites that reach us were originally part of fossil-bearing layers of whatever planet was shattered. And the fossils in those meteorites prove that the planet was teeming with life, marine life, to be precise. Marine life which greatly resembled the marine life of our Earth during the late Jurassic period. But the planet must have been different from the Earth in size, since all the fossils are exceedingly small. They are smaller than the corresponding forms on Earth, although even the corresponding terrestrial forms are small in size.

It was all very wonderful—a trifle too wonderful for scientists of lesser enthusiasm and greater knowledge than Hahn. Of course, they did not doubt his descriptions or drawings, but they did not at all agree with his interpretations.

Hahn had been misled by something which had misled other naturalists before him and which still

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proves annoying to young students and to amateur collectors of fossils. I am speaking of so-called *dendrites*, pseudo fossils which are often of extraordinary beauty and which have the annoying habit of occurring practically side by side with real fossils. One of the most celebrated fossil beds in all Europe are the slate quarries of Solnhofen in Bavaria. The two Jurassic birds, *Archaeopteryx* and *Archaeornis*, have been found near Solnhofen, countless small sparrow-sized flying dinosaurs have been uncovered there and whole collections of the most beautiful and best-preserved fossils of crabs and shrimps. The supply of fossils from Solnhofen has been steady and almost reliable ever since Alois Senefelder invented lithography, because no other slate on Earth is so well suited for this printing process as Solnhofen slate, which served the inventor for his first experiments. Because of this commercial demand Solnhofen slate has been quarried in large amounts for many decades and because of the intended use each slab has been examined carefully.

And among the early finds there was a large number of extraordinary fossils of ferns and mosses. They were usually small in size, an inch or two high, but they were perfectly preserved and they were simply beautiful, so beautiful that Venetian artisans used such slabs as the material for mosaics showing incredible little landscapes and forests.

Pictures of some specimens got into articles and even books on mosses and fernlike vegetation—until, one day, a call for extensive relabeling was sounded in the scientific journals. Those wonderful extinct mosses and/or miniature ferns were no fossils at all. They were just strangely deposited minerals, formed originally in fine cracks by compounds like magnesium-ortho-silicate and magnesium-meta-silicate. They were just dendrites—it was awful.

And Hahn's meteoric fossils seem to have been mostly microscopic dendrites; some even were simply shapes formed by the crystalline structure of some meteorites. There exists a special subclass of stone meteorites which has a pronounced tendency to form such crystalline figures, the chondrites, and it had been Hahn's misfortune to go to work on chondrites.

Hahn's misfortune did not prove, of course, that there could be no fossils in meteorites, but the chance that such a meteorite might fall and be discovered is so remote as to be virtually zero.

There remained the hope for bacteria from space.

According to Arrhenius we might get a spore or two every day, but, while he is probably right, there is at present absolutely no way of proving it. No matter how strange a newly discovered bacillus may act and look, nobody will ever be willing to stake his reputation on the claim that it is an extraterrestrial form. As a matter of fact it *is*

much more probable that it is a terrestrial form which had only been overlooked so far. Or that it is a new mutant; bacteria might mutate very frequently for all we know about them. Actually what we do know about them indicates that they do mutate easily.

Bacteria arriving by themselves via light pressure will not furnish any proof—but it would be another story if one could isolate bacteria from the interior of a meteorite and we could be pretty certain if such bacteria represented hitherto unknown forms. Statistically the chance that a stony meteorite may contain bacteria is rather small, but it is not so small that a few sampling tests might not be made. With great good luck one of these tests might turn out successful.

It was this type of reasoning which prompted Professor Lipman to go to work on a number of meteorite samples, but before describing the work it may be worth while to point out that the spores of bacteria that do exist in the interior of a meteorite would in all probability survive the descent. Very small meteorites burn up in the atmosphere, but those that are large enough to reach the surface are heated only superficially. Their interior remains cool, even cold; the spores—provided that there are spores inside—would not be killed by extravagant heating. Nor is the impact velocity of meteorites weighing less than, say, forty pounds very high. The way the formulas for air resistance work out, the terminal velocity of such a meteorite would be between eight hundred and eight hundred and fifty feet per second, closer to the eight-hundred mark, even. Spores could survive such a crash; spores are bacteria *"seeds"*, and inordinately hard to kill.

It all boiled down to the realization that the chance of living spores of bacteria in a meteorite was very very slim indeed, but that these spores, if they did exist at all, had a very good chance of reaching the ground alive.

In preliminary experiments Lipman used up some ten small meteorites for the purpose of evolving the proper technique of handling the meteorites. The main problem was a thorough sterilization of the meteorite. Every meteorite has touched the ground at some time during its career and a thorough contamination with terrestrial bacteria is, therefore, to be expected. An ounce of uncultivated sandy soil contains, on the average, three million bacteria, while the figure for garden soil is a little over fifteen times that high. Of course, it would be easy to sterilize a meteorite, but every really thorough method would sterilize it all the way through.

After having worked out a technique for sterilizing the surface, but leaving the interior untouched, Lipman went to work on six meteorites, belonging to five different falls. Some of these falls were so-called "showers" which enabled Roy to use other specimens from the same

falls for his own experiments. Lipman's meteorites were:

(1) Modoc, fall of September 2, 1905.

(2) Holbrook, fall of July 19, 1912.

(3) Johnstown, fall of July 6, 1924.

(4) Johnstown, fall of July 6, 1924.

(5) Mocs, fall of February 3, 1882.

(6) Pultusk, fall of January 30, 1868.

Lipman obtained bacteria from each one of these meteorites. No. 6 produced an irregular rod type, mixed with coccus forms. It was found to be of a type that requires neither organic carbon nor organic nitrogen but can build carbohydrates and proteins out of carbon dioxide and inorganic salts. The other five meteorites yielded cocci and rod-shaped bacteria of very ordinary behavior. Lipman himself wrote that "these bacteria are similar to forms common on our earth and probably identical with some of our forms." He failed to have them classified—at least he did not report it—which is somewhat strange.

The whole thing was a bit too good to be true; six positive findings in six cases was a little bit too much. In fact it looked like a mistake of some kind. Bacteriologists began to suspect pretty quickly that these bacteria were simply terrestrial bacteria, especially since most of the meteorites had been in the ground for quite some time until they were picked up and had since then been handled extensively and formed part of collections where the very thought of need for sterility never occurred to anyone.

When Sharat Kumar Roy repeated Lipman's experiments he used four small meteorites, one each from the falls of Holbrook, Mocs, Pultusk and Forest City, the latter being the only one from another locality than Lipman's stones.

The first job was sterilization of the surface. The report deserves to be quoted verbatim here, partly because of the interesting procedure, partly because it will give to the layman an idea of the difficulties of such work:

> The specimen was scrubbed with hot water and new antiseptic soap—a sterile brush was used—rinsed several times in sterile water, dried with sterile cotton, and immersed in superoxol. After four hours the meteorite was removed with sterile tongs, dipped in ninety-five-per-cent alcohol for a minute, flamed until the alcohol had burned away and for a few seconds more, then dropped into a six-inch large-bore test tube containing sterile peptone soil extract. It was incubated aërobically for twelve weeks at twenty-eight degrees centigrade, then anaërobically for sixteen weeks at twenty-seven degrees centigrade. The medium remained perfectly clear to the end of this time. The specimen was then crushed inside a sterile chamber in a specially devised mortar which was previously sterilized inside a metal container. The container itself had served as a separate sterile chamber. The powder was then distributed with a thoroughly flamed sterile spoon into single tubes of the following media: peptone soil extract, Na_2S peptone soil extract, and peptone coal ex-

tract. The tubes were incubated aërobically for two weeks at twenty-eight degrees centigrade and anaërobically for eight weeks at thirty-seven degrees centigrade.

A control plate was exposed by passing it through the atmosphere of the inoculating chamber four times.

The results of these carefully conducted experiments—the technique used was based on the technique evolved by Lipman, but with some additions and variations—was not very heartening. No growth developed from uncrushed meteorites—but it was the crushing process which was most likely to bring contamination. The powder from the four crushed meteorites was sufficient in quantity to inoculate twelve test tubes containing growing media. Growths developed in three of these twelve tubes; stained smears showed two types of microorganisms in these growths, a rod-shaped bacillus and a round coccus. They turned out to be *Bacillus subtilis* and *Staphylococcus albus,* two well-known types of bacteria. These came from the growths in the test tubes.

But there were still the control plates exposed in the inoculating chamber. Two of the three plates also developed two distinct types of bacterial colonies. They were stained and found to be rods and cocci; after the appropriate tests they were found to be *Bacillus subtilis* and *Staphylococcus albus.*

"The logical conclusion, therefore," says Roy's report, "is that growth found in the three tubes inoculated with meteorite powder was the result of contamination with *Bacillus subtilis* and *Staphylococcus albus.* It is needless to mention that the utmost precautions were taken to prevent contamination, but, nevertheless, it apparently occurred in three of the twelve test tubes."

It may be added here that the contamination may have occurred by seepage long before the specimen was selected for the experiment. Roy took one of the Forest City meteorites—they fell at Forest City, Winnebago County, Iowa, at 5:15 p. m. on May 2, 1890—and soaked it in water for twenty-four hours. The meteorite weighed, air dry, 46.32 grams; when saturated and rubbed dry it weighed 47.14 grams, showing an absorption of .82 gram or 1.77 percent.

Here the problem rests.

So far meteorites have not yielded any signs of extraterrestrial life. Twice somebody reported that he had found proof for such extraterrestrial life; in the first case the whole observation was a mistake and in the second case the announcement has to be put down as due to a case of bacterial contamination.

But meteorites, as has been explained before, can hardly be expected to yield such proof; we had to turn to meteorites only because nothing else of extraterrestrial origin is available on Earth, this date. That the result of the investigation was negative had to be expected. It has nothing at all to do with the probability of life on other worlds.

THE END.

Brass Tacks

The Japs would think anyone who could raise a decent crop of whiskers was very hairy indeed.

Dear Mr. Campbell:

Boucher's yarn, "One-Way Trip," is a pretty good story, and I am not shooting at him or it. But he uses a type in it that gives me an excuse for sounding off on one of my pet phobias—popular misbeliefs that few ever question. Since he has taken Keats to task for the Cortez-Balboa confusion, I feel as justified in picking up his own allusion to the hairy Ainu. Now don't misunderstand me. Boucher did not stick his neck out an inch. He contented himself with introducing a character described that way—hairy—and let suggestion and tradition do the rest. It is not Boucher I quarrel with, but the tradition which he seems to have accepted, as have most of us. The hard fact is that the hairiness of the Ainu is in the same class with the tendency of the ostrich to stick his head in the sand when in danger, or the proverbial infallibility of the elephantine memory—a legend. It just ain't so.

The Ainu *is* hairy, even as you and I. That is, he can grow a respectable beard if he chooses. And he does. This led our dear foes, the Japanazi—who treat the poor Ainus abominably, incidentally—to attribute to them canine ancestry and start the myth that they were as hairy all over. This has been swallowed by everybody but the handful of anthropologists who have studied the queer race first-hand and know better. The truth of the matter is that Ainus are no hairier than anyone else, barring the Mongoloid peoples that surround them, who have notoriously sparse whiskers, and that is attested to by scientists who have studied them. Perhaps the reason why the Nips fell into the error of believing that such abundantly bewhiskered men must be similarly hirsutely adorned all over grew out of the fact that Ainus live in a bitterly cold climate and

dress much after the fashion of the Eskimos, revealing nothing but the face and hands. They are also reluctant to disrobe in the presence of curious strangers.

Another factor in the Ainu hairiness myth doubtless grows out of the Ainu's own superstition. They believe in sympathetic magic. In consequence they guard their locks carefully, never permitting a shave or haircut for fear an enemy will gain possession of a fragment of their hair. The result, since ethnically they resemble the Alpine stock of Europe, is something very similar to that achieved by our own devotees to the cult of the House of David. They do look hairy, what you can see of them, and there is no doubt about that. *But*—

At any rate, anyone caring to challenge the forgoing remarks is invited to read Malvina Hoffman's "Heads and Tales" (Scribners, 1934), in which she debunks the myth. She, it may be recalled, was the sculptress who went all over the South Seas, Africa, the Orient and elsewhere making the anthropological bronze sculptures now displayed in the Hall of Man, at the Field Museum in Chicago. She and her party photographed and modeled many Ainus of both sexes on their native island of Hokkaido, and ought to know what they're like. She is in agreement with the scientists Doctors Montandon and Batchelder, both of whom have lived among the Ainus and studied them, and found them to be not of Mongoloid stock, but probably evolved from some primitive proto-Nordic race of the Paleo-Neolithic era, much resembling our own kind. She says, "I found that the Ainus do not appear to be as hairy as the Todas of India, or in fact many Europeans," and her book contains illustrations in the form of photographs that bear her out. The alleged hairiness, it seems needless to say, is restricted to men. The women have about the same hair traits as women everywhere.—Malcolm Jameson.

We're working on the art end—but artists do not, generally, take to science-fiction as a hobby. And that's what makes a real science-fiction artist.

Dear Mr. Campbell:

I've just finished the second installment of "Gather Darkness," and, while I remember about it, I want to say it's one of your best yet. It has the same theme of a scientific-religious feudalism that has cropped up in one or two recent stories, but the idea has never been as fully exploited before. And its a perfect example of the constant mutation that ASF has undergone continually under the "Campbell Regime." Two years ago, "Gather Darkness" would have gone automatically into *Unknown*. Nowadays the tales in Astounding are almost all of the "wacky" variety, with a maximum of miracles and a minimum of explanation.

Another thing I like about Astounding. New names are con-

tinually coming in, and that isn't entirely due to the war, I fancy. Gone are the days when the average science-fiction mag was continually written by a score or so of well-known names. You have to have something more than a name to keep appearing in ASF.

Nevertheless, I have got something to complain about, and that is the pictorial work. Timmins is better in front than I thought he'd be; his best so far being the one for "Swimming Lessons," but the inside work could be a lot better. Orban is the only artist I really like; Kramer's originality seems to be running dry, while Fax doesn't seem ever to have had any. Your new chap, Williams, is indistinguishable from Kolliker, but might come to something. I forgot to mention the Isips. Their slick, streamlined style is a joy to the eye.

While I'm writing, I might as well add that, although I missed the first installment of "The Weapon Makers," I enjoyed it very much.—Robert J. Silburn, The Dingle, Rhydyfelin, Aberystwyth, Wales, Britain.

Well, the Army Medical Corps has Padgett's services, and Leiber is doing math for one of the aircraft plants now. DAS was my pen name.

Dear Mr. Campbell:

The August issue of Astounding is back to its old level, after a few months of not so good. I know that some of the letdown is due to the absence of Heinlein and others, but if you can keep Padgett, Leiber and Boucher after the others get back—wow.

Before I go into the stories, let me congratulate you on returning to the small size. I hope that, even when Natzo, Japso, and Fatso are squelched, that you will retain the small size.

Now as to stories:

1. "Endowment Policy." Padgett handled an old theme with a skill and approach I liked.

2. "M33 in Andromeda." Morton and the others back again and much better than "Recruiting Station" and "Asylum."

3. "Judgment Night." Miss Moore handles the theme in a capable manner.

4. "When Is When." Jameson, not at his best is a little off on his time traveling—no matter how they figured it, it would be a span affair. Adequate, however. When is Commander Bullard returning?

5. "The Mutant's Brother."

6. "One-way Trip"—much more could have been done with this idea.

This is not to say that any of the stories are bad, but just that some are better than others.

I caught a note in the last Brass Tacks that fascinated me. Is the John W. Campbell and Don A. Stuart of "Who Goes There" one and the same individual?—Robert B. Griffin, 279 Washington Avenue 6I, Brooklyn, 5, New York.

We Print the Truth

by Anthony Boucher

***WARNING**—Pure Fantasy. This is a tale of pure fantasy, run as an experiment. If you don't like an occasional fantasy, the experiment ends right here. But this is a story of a newspaper that always printed the truth—for anything it printed became truth!*

Illustrated by Orban

"All right then, tell me this: If God can do anything—" Jake Willis cleared his throat and paused, preparatory to delivering the real clincher.

The old man with the scraggly beard snorted and took another shot of applejack. "—can He make a weight so heavy He can't lift it? We know that one, Jake, and it's

nonsense. It's like who wakes the bugler, or who shaves the barber, or how many angels can dance how many sarabands on the point of a pin. It's just playing games. It takes a village atheist to beat a scholastic disputant at pure verbal hogwash. Have a drink."

Jake Willis glared. "I'd sooner be the village atheist," he said flatly, "than the town drunkard. You know I don't drink." He cast a further sidewise glare at the little glass in Father Byrne's hand, as though the priest were only a step from the post of town drunkard himself.

"You're an ascetic without mysticism, Jake, and there's no excuse for it. Better be like me: a mystic without ary a trace of asceticism. More fun."

"Stop heckling him, Luke," Father Byrne put in quietly. "Let's hear what if God can do anything."

Lucretius Sellers grunted and became silent. MacVeagh said, "Go ahead, Jake," and Chief Hanby nodded.

They don't have a cracker barrel in Grover, but they still have a hot-stove league. It meets pretty regularly in the back room of the *Sentinel*. Oh, once in a while some place else. On a dull night in the police station they may begin to flock around Chief Hanby or maybe even sometimes they get together with Father Byrne at the parish house. But mostly it's at the *Sentinel*.

There's lots of spare time around a weekly paper, even with the increase in job printing that's come from all the forms and stuff they use out at the Hitchcock plant. And Editor John MacVeagh likes to talk, so it's natural to gather around him all the others that like to talk, too. It started when Luke Sellers was a printer before he resigned to take up drinking as a career.

The talk's apt to be about anything. Father Byrne talks music mostly; it's safer than his own job. With John MacVeagh and Chief Hanby it's shop talk—news and crime, not that there's much of either in Grover, or wasn't up to this evening you're reading about.

But sometime in the evening it's sure to get around to: Is there a God? And if so why doesn't He—Especially when Jake Willis is there. Jake's the undertaker and the coroner. He says, or used to say then, that when he's through with them, he knows they're going to stay dead, and that's enough for him.

So here Jake had built up to his usual poser again. Only this time it wasn't the weight that Omnipotence couldn't lift. Everybody was pretty tired of that. It was, "If God can do anything, why doesn't he stop the war?"

"For once, Jake, you've got something," said John MacVeagh. "I know the problem of Evil is the great old insoluble problem; but Evil on a scale like this begins to get you. From an Old Testament God, maybe yes; but it's hard to believe in the Christian God of love and kindness permitting all this mass

slaughter and devastation and cruelty."

"We just don't know," Chief Hanby said slowly. "We don't understand. 'For my thoughts are not your thoughts, neither are your ways my ways, saith the Lord. For as the Heavens are higher than the earth, so are my ways higher than your ways, and my thoughts than your thoughts.' Isaiah, fifty-five, eight and nine. We just don't understand."

"Uh-huh, chief." MacVeagh shook his head. "That won't wash. That's the easy way out. The one thing we've got to know and understand about God is that He loves good and despises evil, which I'll bet there's a text for only I wouldn't know."

"He loves truth," said Chief Hanby. "We don't know if His truth is our 'good.'"

Lucretius Sellers refilled his glass. "If the Romans thought there was truth in wine, they should've known about applejack. But what do you say, Father?"

Father Byrne sipped and smiled. "It's presumptuous to try to unravel the divine motives. Isaiah and the chief are right: His thoughts are not our thoughts. But still I think we can understand the answer to Jake's question. If you were God—"

They never heard the end to this daring assumption, not that night, anyway. For just then was when Philip Rogers burst in. He was always a little on the pale side—thin, too, only the word the girls used for it was "slim," and they liked the pallor, too. Thought it made him look "interesting," with those clean sharp features and those long dark eyelashes. Even Laura Hitchcock liked the features and the lashes and the pallor. Ever since she read about Byron in high school.

But the girls never saw him looking as pale as this, and they wouldn't have liked it. Laura now might have screamed at the sight of him. It isn't right, it isn't natural for the human skin to get that pale, as though a patriotic vampire had lifted your whole stock of blood for the plasma drive.

He fumbled around with noises for almost a minute before he found words. The men were silent. Abstract problems of evil didn't seem so important when you had concrete evidence of some kind of evil right here before you. Only evil could drain blood like that.

Finally one of his choking glurks sounded like a word. The word was "Chief!"

Chief Hanby got up. "Yes, Phil? What's the matter?"

Wordlessly Luke Sellers handed over the bottle of applejack. It was a pretty noble gesture. There was only about two drinks left, and Phil Rogers took them both in one swallow.

"I thought you'd be over here, chief," he managed to say. "You've got to come. Quick. Out to Aunt Agnes'."

"What the matter out there? Burglary? "Chief Hanby asked with an optimism he didn't feel.

"Maybe. I don't know. I didn't look. I couldn't. All that blood—Look. Even on my trousers where I bent down— I don't know why. Any fool could see she was dead—"

"Your aunt?" Chief Hanby gasped. Then the men were silent. They kept their eyes away from the young man with blood on his trousers and none in his face. Father Byrne said something softly to himself and to his God. It was a good thirty seconds before the professional aspects of this news began to strike them.

"You mean murder?" Chief Hanby demanded. Nothing like this had ever happened in Grover before. Murder of H. A. Hitchcock's own sister! "Come on, boy. We won't waste any time."

John MacVeagh's eyes were alight. "No objections to the press on your heels, chief? I'll be with you as soon as I see Whalen."

Hanby nodded. "Meet you there, Johnny."

Father Byrne said, "I know your aunt never quite approved of me or my church, Philip. But perhaps she won't mind too much if I say a mass for her in the morning."

Jake Willis said nothing, but his eyes gleamed with interest. It was hard to tell whether the coroner or the undertaker in him was more stirred by the prospect.

Lucretius Sellers headed for the door. "As the only man here without a professional interest in death, I bid you boys a good night." He laid his hand on the pale young man's arm and squeezed gently. "Sorry, Phil."

Father Byrne was the last to leave, and Molly bumped into him in the doorway. She returned his greeting hastily and turned to John MacVeagh, every inch of her plump body trembling with excitement. "What's happening, boss? What goes? It must be something terrific to break up the bull session this early."

MacVeagh was puffing his pipe faster and hotter than was good for it. "I'll say something's happened, Molly. Agnes Rogers has been killed. Murdered."

"Whee!" Molly yelled. "Stop the presses! Is that a story! Is that a— Only you can't stop the presses when we don't come out till Friday, can you?"

"I've got to talk to Whalen a minute—and about that very thing—and then I'll be off hotfooting it after the chief. It's the first local news in three years that's rated an extra, and it's going to get one."

"Wonderful!" Her voice changed sharply. "The poor crazy old woman— We're vultures, that's what we are—"

"Don't be melodramatically moral, Molly. It's our job. There have to be . . . well, vultures; and that's us. Now let me talk to Whalen, and I'll—"

"Boss?"

"Uh-huh?"

"Boss, I've been a good girl Friday, haven't I? I keep all the job orders straight and I never make a mistake about who's just been to

the city and who's got relatives staying with them and whose strawberry jam won the prize at the Fair—"

"Sure, sure. But look, Molly—"

"And when you had that hangover last Thursday and I fed you tomato juice all morning and beer all afternoon and we got the paper out O. K., you said you'd do anything for me, didn't you?"

"Sure. But—"

"All right. Then you stay here and let me cover this murder."

"That's absurd. It's my job to—"

"If you knew how much I want to turn out some copy that isn't about visiting and strawberry jam—And besides, this'll be all tied up with the Hitchcocks. Maybe even Laura'll be there. And when you're . . . well, involved a little with people, how can you be a good reporter? Me, I don't give a damn about Hitchcocks. But with you, maybe you'd be in a spot where you'd have to be either a lousy reporter or a lousy friend."

MacVeagh grinned. "As usual, Friday, you make sense. Go on. Get out there and bring me back the best story the *Sentinel* ever printed. Go ahead. Git."

"Gee, boss—" Molly groped for words, but all she found was another and even more heartfelt "*Gee*—" Then she was gone.

MacVeagh smiled to himself. Swell person, Molly. He'd be lost without her. Grand wife for some man, if he liked them a little on the plump side. If, for instance, he had never seen the superb slim body of Laura Hitchcock—

But thoughts of Laura now would only get in the way. He'd have to see her tomorrow. Offer his condolences on the death of her aunt. Perhaps in comforting her distress—

Though it would be difficult, and even unconvincing to display too much grief at Agnes Rogers' death. She had been Grover's great eccentric, a figure of fun, liked well enough, in a disrespectful way, but hardly loved. A wealthy widow—she held an interest in the Hitchcock plant second only to H. A.'s own—she had let her fortune take care of itself—and of her—while she indulged in a frantic crackpot quest for the Ultimate Religious Truth. At least once a year she would proclaim that she had found it, and her house would be filled with the long-robed disciples of the Church of the Eleven Apostles—which claimed that the election by lot of Matthias had been fraudulent and invalidated the apostolic succession of all other churches—or the sharp-eyed, businesslike emissaries of Christoid Thought—which seemed to preach the Gospel according to St. Dale.

It was hard to take Agnes Rogers' death too serious. But that ultimate seriousness transfigures, at least for the moment, the most ludicrous of individuals.

Whalen was reading when John MacVeagh entered his cubbyhole off the printing room. One of

those books that no one, not even Father Byrne, had ever recognized the letters of. It made MacVeagh realize again how little he knew of this last survival of the race of tramp printers, who came out of nowhere to do good work and vanish back into nowhere.

Brownies, he thought. With whiskey in their saucers instead of milk.

Not that Whalen looked like any brownie. He was taller than MacVeagh himself, and thinner than Phil Rogers. The funniest thing about him was that when you called up a memory image of him, you saw him with a beard. He didn't have any, but there was something about the thin long nose, the bright deep-set eyes— Anyway, you saw a beard.

You could almost see it now, in the half light outside the circle that shone on the unknown alphabet. He looked up as MacVeagh came in and said, "John. Good. I wanted to see you."

MacVeagh had never had a printer before who called him by his formal first name. A few had ventured on Johnny, Luke Sellers among them, but never John. And still whatever came from Whalen sounded right.

"We've got work to do, Whalen. We're going to bring out an extra tomorrow. This town's gone and busted loose with the best story in years, and it's up to us to—"

"I'm sorry, John," Whalen said gravely. His voice was the deepest MacVeagh had ever heard in ordinary speech. "I'm leaving tonight."

"Leaving—" MacVeagh was almost speechless. Granted that tramp printers were unpredictable, still after an announcement such as he'd just made—

"I must, John. No man is master of his own movements. I must go, and tonight. That is why I wished to see you. I want to know your wish."

"My wish? But look, Whalen: We've got work to do. We've got to—"

"I must go." It was said so simply and sincerely that it stood as absolute fact, as irrevocable as it was incomprehensible. "You've been a good employer, John. Good employers have a wish when I go. I'll give you time to think about it; never make wishes hastily."

"But I— Look, Whalen. I've never seen you drink, but I've never known a printer that didn't. You're babbling. Sleep it off, and in the morning we'll talk about leaving."

"You never did get my name straight, John," Whalen went on. "It was understandable in all that confusion the day you hired me after Luke Sellers had retired. But Whalen is only my first name. I'm really Whalen Smith. And it isn't quite Whalen—"

"What difference does that make?"

"You still don't understand? You don't see how some of us had to take up other trades with the times? When horses went and you still wanted to work with metal, as an

individual worker and not an ant on an assembly line— So you don't believe I can grant your wish, John?"

"Of course not. Wishes—"

"Look at the book, John."

MacVeagh looked. He read:

At this point in the debate his majesty waxed exceeding wroth and smote the great oaken table with a mighty oath. "Nay," he swore, "all of our powers they shall not take from us. We will sign the compact, but we will not relinquish all. For unto us and our loyal servitors must remain—"

"So what?" he said. "Fairy tales?"

Whalen Smith smiled. "Exactly. The annals of the court of His Majesty King Oberon."

"Which proves what?"

"You read it, didn't you? I gave you the eyes to read—"

John MacVeagh looked back at the book. He had no great oaken table to smite, but he swore a mighty oath. For the characters were again strange and illegible.

"I can grant your wish, John," said Whalen Smith with quiet assurance.

The front doorbell jangled.

"I'll think about it," said MacVeagh confusedly. "I'll let you know—"

"Before midnight, John. I must be gone then," said the printer.

Even an outsider to Grover would have guessed that the man waiting in the office was H. A. Hitchcock. He was obviously a man of national importance, from the polished tips of his shoes to the equally polished top of his head. He was well-preserved and as proud of his figure as he was of his daughter's or his accountant's; but he somehow bulked as large as though he weighed two hundred.

The top of his head was gleaming with unusual luster at the moment, and his cheeks were red. "Sit down, MacVeigh," he said, as authoritatively as though this was his own office.

John MacVeagh sat down, said, "Yes, Mr. Hitchcock?" and waited.

"Terrible thing," Mr. Hitchcock sputtered. "Terrible. Poor Agnes—Some passing tramp, no doubt."

"Probably," John agreed. Inhabitants of Grover were hard to picture as murderers. "Anything taken?"

"Jewelry from the dressing table. Loose cash. Didn't find the wall safe, fortunately. Chief Hanby's quite satisfied. Must have been a tramp. Sent out a warning to State highway police."

"That was wise." He wondered why H. A. Hitchcock had bothered to come here just for this. Molly would bring it to him shortly. He felt a minor twinge of regret—passing tramps aren't good copy, even when their victim is a magnate's sister.

"Hanby's satisfied," Mr. Hitchcock went on. "You understand that?"

"Of course."

"So I don't want you or your girl reporter questioning him and

stirring up a lot of confusion. No point to it."

"If the chief's satisfied, we aren't apt to shake him."

"And I don't want any huggermugger. I know you newspapermen. Anything for a story. Look at the way the press associations treated that strike. What happened? Nothing. Just a little necessary discipline. And you'd think it was a massacre. So I want a soft pedal on poor Agnes' death. You understand? Just a few paragraphs—mysterious marauder—you know."

"It looks," said MacVeagh ruefully, "as though that was all it was going to be worth."

"No use mentioning that Philip and Laura were in the house. Matter of fact, so was I. We didn't see anything. She'd gone upstairs. No point to our evidence. Leave us out of it."

MacVeagh looked up with fresh interest. "All of you there? All of you downstairs and a passing tramp invades the upstairs and gets away with—"

"Damn clever, some of these criminals. Know the ropes. If I'd laid my hands on the— Well, that won't bring Agnes back to life. Neither will a scare story. Had enough unfavorable publicity lately. So keep it quiet. Don't trust that reporter of yours; don't know what wild yarns she might bring back to you. Thought I'd get it all straight for you."

"Uh-huh." MacVeagh nodded abstractedly. "You were all together downstairs, you and Laura and Philip?"

"Yes," said Mr. Hitchcock. He didn't hesitate, but MacVeagh sensed a lie.

"Hm-m-m," was all he said.

"Don't you believe me? Ask Laura. Ask Philip."

"I intend to," said John MacVeagh quietly.

Mr. Hitchcock opened his mouth and stared. "There's no need for that, young man. No need at all. Any necessary facts you can get from me. I'd sooner you didn't bother my daughter or my nephew or the chief. They have enough troubles."

MacVeagh rose from behind his desk. "There's been a murder," he said slowly. "The people of Grover want to know the truth. Wherever there's an attempt to cover up, you can be pretty sure that there's something to cover. Whatever it is, the *Sentinel's* going to print it. Good night, Mr. Hitchcock."

With the full realization of what MacVeagh meant, Mr. Hitchcock stopped spluttering. There was nothing of the turkey cock about him now. He was quiet and deadly as he said, "I'll talk to Mr. Manson tomorrow."

"Sorry to disappoint you. My debt to Manson's bank was paid off last month. We haven't been doing badly since the influx of your workers doubled our circulation."

"And I think that our plant's printing will be more efficiently and economically handled in the city."

"As you wish. We can make out

without it." He hoped he sounded more convincing than he felt.

"And you understand that my daughter will hardly be interested in seeing you after this?"

"I understand. You understand, too, that her refusal to see the press might easily be misconstrued under the circumstances?"

Mr. Hitchcock said nothing. He did not even glare. He turned and walked out of the room, closing the door gently. His quiet exit was more effectively threatening than any blustering and slamming could have been.

MacVeagh stood by the desk a moment and thought about Rubicons and stuff. His eyes were hard and his lips firmly set when he looked up as Whalen entered.

"It's almost midnight," the old printer said.

MacVeagh grabbed the phone. "Two three two," he said. "You're still bound to walk out on me, Whalen?"

"Needs must, John."

"O. K. I can make out without you. I can make out without H. A. Hitchcock and his— Hello. Mrs. Belden? . . . MacVeagh speaking. Look, I'm sorry to wake you up at this hour, but could you go up and get Luke Sellers out of bed and tell him I want him over here right away? It's important. . . . Thanks." He hung up. "Between us Molly and I can whip Luke back into some sort of shape as a printer. We'll make out."

"Good, John. I should be sorry to inconvenience you. And have you thought of your wish?"

MacVeagh grinned. "I've had more important things on my mind, Whalen. Go run along now. I'm sorry to lose you; you know that. And I wish you luck, whatever it is you're up to. Good-by."

"Please, John." The old man's deep voice was earnest. "I do not wish you to lose what is rightfully yours. What is your wish? If you need money, if you need love—"

MacVeagh thumped his desk. "I've got a wish all right. And it's not love nor money. I've got a paper, and I've got a debt to that paper and its readers. What happened tonight'll happen again. It's bound to. And sometime I may not have the strength to fight it. God help me. So I've got a wish."

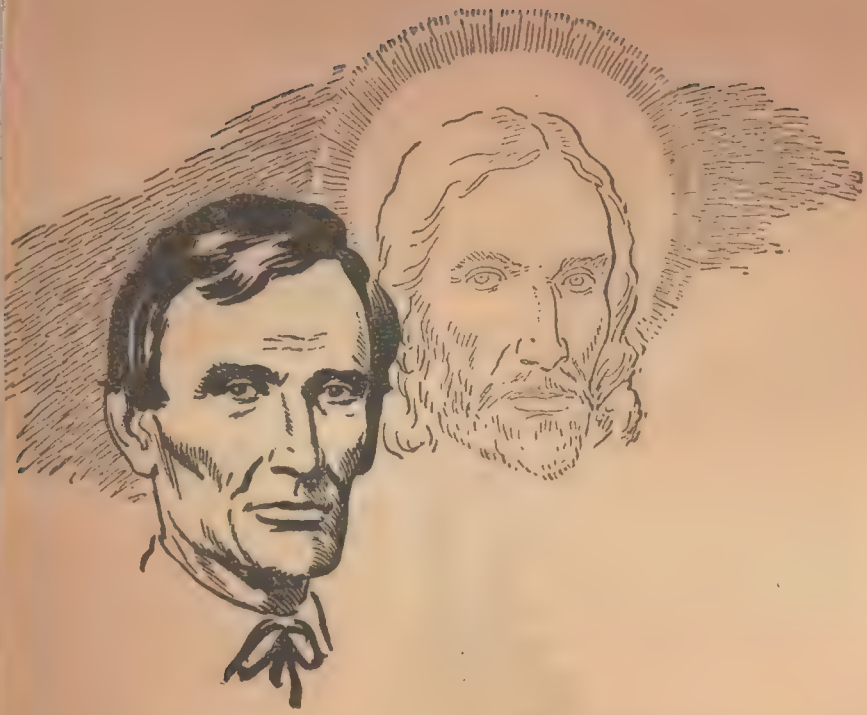
"Yes, John?"

"Did you ever look at our masthead? Sometimes you can see things so often that you never really see them. But look at that masthead. It's got a slogan on it, under where it says *'Grover Sentinel.'* Old Jonathan Minter put that slogan there, and that slogan was the first words he ever spoke to me when he took me on here. He was a great old man, and I've got a debt to him, too, and to his slogan.

"Do you know what a slogan really means? It doesn't mean a come-on, a bait. It doesn't mean Eat Wootsy-Tootsie and Watch Your Hair Curl. It means a rallying call, a battle cry."

"I know, John."

"And that's what this slogan is,



the *Sentinel's* battle cry: *We print the truth.* So this is my wish, and if anybody had a stack of Bibles handy I'd swear to it on them: May the *Sentinel* never depart from that slogan. May that slogan itself be true, in the fullest meaning of truth. May there never be lies or suppression or evasions in the *Sentinel* because always and forever *we print the truth.*"

It was impossible to see what Whalen Smith did with his hands. They moved too nimbly. For a moment it seemed as though their intricate pattern remained glowing in the air. Then it was gone, and Whalen said, "I have never granted a nobler wish. Nor," he added, "a more dangerous one."

He was gone before MacVeagh could ask what he meant.

II.

Wednesday's extra of the Grover *Sentinel* carried the full uncensored story of the murder of Agnes Rogers, and a fine job Molly had done of it. It carried some filling matter, too, of course, much of it mats from the syndicate, eked out with local items from the spindles, like the announcement of Old Man Herkimer's funeral and the secretary's report of the meeting of the Ladies'

Aid at Mrs. Warren's.

There was no way of telling that one of those local items was infinitely more important to the future of John MacVeagh and of Grover itself than the front-page story.

MacVeagh woke up around two on Wednesday afternoon. They'd worked all night on the extra, he and Molly and Luke. He'd never thought at the time to wonder where the coffee came from that kept them going; he realized now it must have been Molly who supplied it.

But they'd got out the extra; that was the main thing. Sensationalism? Vultures, as Molly had said? Maybe he might have thought so before H. A. Hitchcock's visit. Maybe another approach, along hose lines, might have gained Hitchcock's end. But he knew, as well as any man can ever know his own motives, that the driving force that carried them through last night's frantic activity was no lust for sensationalism, no greed for sales, but a clean, intense desire to print the truth for Grover.

The fight wasn't over. The extra was only the start. Tomorrow he would be preparing Friday's regular issue, and in that—

The first stop, he decided, was the station. It might be possible to get something out of Chief Hanby. Though he doubted if the chief was clear enough of debt to Manson's bank, to say nothing of political obligations, to take a very firm stand against H. A. Hitchcock.

MacVeagh met her in the anteroom of the station. She was coming out of the chief's private office, and Phil Rogers was with her. He had just his normal pallor now, and looked almost human. Still not human enough, though, to justify the smile she was giving him and the way her hand rested on his arm.

That smile lit up the dark, dusty little office. It hardly mattered that she wasn't smiling at MacVeagh. Her smile was beauty itself, in the absolute, no matter who was it aimed at. Her every movement was beauty, and her clothes were a part of her, so that they and her lithe flesh made one smooth loveliness.

And this was H. A. Hitchcock's daughter Laura, and MacVeagh was more tongue-tied than he usually was in her presence. He never could approach her without feeling like a high-school junior trying to get up nerve to date the belle of the class.

"Laura—" he said.

She had a copy of the extra in one hand. Her fingers twitched it as she said, "I don't think there is anything we could possibly say to each other, Mr. MacVeagh."

Philip Rogers was obviously repressing a snicker. MacVeagh turned to him. "I'm glad to see you looking better, Phil. I was worried about you last night. Tell me: how did you happen to find the body?"

Laura jerked at Philip's arm. "Come on, Phil. Don't be afraid of the big, bad editor."

Philip smiled, in the style that best suited his pallid profile. "Quite a journalistic achievement, this ex-

tra, Johnny. More credit to your spirit than to your judgment, but quite an achievement. Of course, you were far too carried away by it all to do any proofreading?"

"Come *on*, Phil."

"Hold it, Laura. I can't resist showing our fearless young journalist his triumph of accuracy. Look, Johnny." He took the paper from her and pointed to an inside page. "Your account of Old Man Herkimer's funeral: 'Today under the old oaks of Mountain View Cemetery, the last rites of Josephus R. Herkimer, 17, of this city—'" He laughed. "The old boy ought to enjoy that posthumous youth."

"Seventeen, seventy-seven!" MacVeagh snorted. "If that's all that's gone wrong in that edition, I'm a miracle man. But, Laura—"

"You're quite right, Mr. MacVeagh. There are far worse things wrong with that edition than the mis-print which amuses Philip."

"Will you be home tonight?" he said with harsh abruptness.

"For you, Mr. MacVeagh, I shall never be home. Good day."

Philip followed her. He looked over his shoulder once and grinned, never knowing how close his pallid profile came to being smashed forever.

Chief Hanby was frowning miserably as MacVeagh came into the office. The delicate smoke of his cigar indicated one far above his usual standard—it was easy to guess its source—but he wasn't enjoying it.

"'Render therefore unto Caesar,'" he said, "'the things which are Caesar's; and unto God the things that are God's.' Matthew, twenty-two, twenty-one. Only who knows which is which?"

"Troubles, chief?" MacVeagh asked.

Chief Hanby had a copy of the extra on his desk. His hand touched it almost reverently as he spoke. "He went to see you, John?"

"Yeah."

"And still you printed this? You're a brave man, John, a brave man."

"You're no coward yourself, chief. Remember when Nose O'Leary escaped from the State pen and decided Grover'd make a nice hide-out?"

The chief's eyes glowed with the memory of that past exploit. "But that was different, John. A man can maybe risk his life when he can't risk— I'll tell you this much. I'm not talking to you, not right now. Nothing's settled, nothing's ripe, I don't know a thing. But I'm still groping. And I'm not going to stop groping. And if I grope out an answer to anything—whatever the answer is, you'll get it."

MacVeagh thrust out his hand. "I couldn't ask fairer than that, chief. We both want the truth, and between us we'll get it."

Chief Hanby looked relieved. "I wouldn't blame H. A. too much, John. Remember he's under a strain. These labor troubles are getting him, and with the election coming up at the plant—"

"And whose fault are the troubles? Father Byrne's committee suggested a compromise and a labor-management plan. The men were willing enough—"

"Even they aren't any more. Not since Bricker took over. We've all got our troubles. Take Jake Willis now— Why, speak of the devil!"

The coroner looked as though he could easily take a prize for worried expressions away from even MacVeagh and the chief. The greeting didn't help it! He said, "There's too much loose talk about devils. It's as barbarous as swearing by God." But his heart wasn't in his conventional protest.

"What *is* the matter, Jake?" the chief asked. "You aren't worried just on account of you've got an inquest coming up, are you?"

"No, it ain't that—" His eyes rested distrustfully on MacVeagh.

"Off the record," said the editor. "You've my word."

"All right, only— No. It ain't no use. You wouldn't believe me if I told you— Either of you going back past my establishment?"

The chief was tied to his office. But John MacVeagh went along, his curiosity stimulated. His questions received no answers. Jake Willis simply plodded along South Street, like a man ridden by the devils in which he refused to believe.

And what, MacVeagh thought to himself, would Jake think of a tramp printer who claimed to grant wishes? For the matter of that, what do I think— But there was too much else going on to spare much thought for Whalen Smith.

Jake Willis led the way past his assistant without a nod, on back into the chapel. There was a casket in place there, duly embanked with floral tributes. The folding chairs were set up, there was a Bible on the lectern and music on the organ. The stage was completely set for a funeral, and MacVeagh remembered about Old Man Herkimer.

"They're due here at three thirty," Jake whined. "And how'll I dare show it to 'em? I don't know how it happened. Jimmy, he swears he don't know a thing, neither. God knows!" he concluded in a despairing rejection of his skepticism.

"It is Old Man Herkimer?"

"It ought to be. That's what I put in there yesterday, Old Man Herkimer's body. And I go to look at it today and—"

The face plate of the coffin was closed. "I'm going to have to leave it that way," he said. "I can't let 'em see - I'll have to tell 'em confidentiallike that he looked too - I don't know. I'll have to think of something."

He opened up the plate. MacVeagh looked in. It was a Herkimer all right. There was no mistaking the wide-set eyes and thin lips of that clan. But Old Man Herkimer, as the original copy for the item in the extra had read, was seventy-seven when he died. The body in the coffin—

"Don't look a day over seventeen, does he?" said Jake Willis.

"Father Byrne," said John MacVeagh, "I'm asking you this, not as a priest, but as the best-read scholar in Grover: Do miracles happen?"

Father Byrne smiled. "It's hard not to reply as a priest; but I'll try. Do miracles happen? By dictionary definition, I'll say yes; certainly." He crossed the study to the stand which held the large unabridged volume. "Here's what Webster calls a miracle: 'An event or effect in the physical world beyond or out of the ordinary course of things, deviating from the known laws of nature, or,' and this should be put in italics, *'or transcending our knowledge of those laws.'*"

MacVeagh nodded. "I see. We obviously don't know all the laws. We're still learning them. And what doesn't fit in with the little we know—"

"'An event,'" the priest read on, "'which cannot be accounted for by any of the known forces of nature and which is, therefore, attributed to a supernatural force.' So you see miraculousness is more in the attitude of the beholder than in the nature of the fact."

"And the logical reaction of a reasonable man confronted with an apparent miracle would be to test it by scientific method, to try to find the as yet unknown natural law behind it?"

"I should think so. Again being careful not to speak as a priest."

"Thanks, Father."

"But what brings all this up, John? Don't tell me you have been hearing voices or such? I'd have more hope of converting an atheist [illegible]ke to the supernatural than a good hard-headed agnostic like you."

"Nothing, Father. I just got to thinking— Let you know if anything comes of it."

Philip Rogers was waiting for MacVeagh at the *Sentinel* office. There was a puzzling splash of bright red on his white cheek. Molly was there, too, typing with furious concentration.

"I want to talk to you alone, Johnny," Rogers said.

Molly started to rise, but MacVeagh said, "Stick around. Handy things sometimes, witnesses. Well, Phil?"

Philip Rogers glared at the girl. "I just wanted to give you a friendly warning, Johnny. You know as personnel manager out at the plant I get a pretty good notion of how the men are feeling."

"Too bad you've never put it over to H. A., then."

Philip shrugged. "I don't mean the reds and the malcontents. Let Bricker speak for them—while he's still able. I mean the good, solid American workers, that understand the plant and the management."

"H. A.'s company stooges, in short. O. K., Phil, so what are they thinking?"

"They don't like the way you're playing up this murder. They think you ought to show a little sympathy for their boss in his bereavement. They think he's got troubles enough

with Bricker and the Congressional committee."

MacVeagh smiled. "Now I get it."

"Get what?"

"I'd forgotten about the committee. So that's what's back of all the hush-hush. A breath of scandal, a suspicion that there might be a murderer in the Hitchcock clan—it could so easily sway a congressman who was trying to evaluate the motives behind H. A.'s deals. He's got to be Caesar's wife. Above suspicion."

"At least," Philip said scornfully, "you have too much journalistic sense to print wild guesses like that. That's something. But remember what I said about the men."

"So?"

"So they might decide to clean out the *Sentinel* some night."

MacVeagh's hand clenched into a tight fist. Then slowly he forced it to relax. "Phil," he said, "I ought to batter that pallor of yours to a nice healthy pulp. But you're not worth it. Tell the company police I'm saving my fists for their vigilante raid. Now get out of here, while I've still got sense enough to hold myself back."

Philip was smiling confidently as he left, but his face was a trifle paler even than usual.

MacVeagh expressed himself with calculated liberty on Philip Rogers' ancestry, nature, and hobbies for almost a minute before he was aware of Molly. "Sorry," he broke off to say, "but I meant it."

"Say it again for me, boss. And in spades."

"I should have socked him. He—" MacVeagh frowned. "When I came in—it looked as though someone might already have had that pious notion." He looked at Molly queerly. "Did you—"

"He made a pass at me," Molly said unemotionally. "He thought maybe he could enlist me on their side that way, keep me from writing my stuff up. I didn't mind the pass. Why I slapped him was, he seemed to think I ought to be flattered."

MacVeagh laughed. "Good girl." He sat down at the other typewriter and rolled in a sheet of copy paper. "We'll hold the fort." He began to type.

Molly looked up from her own copy. "Get any new leads, boss?"

"No," he said reflectively. "This is just an experiment—" He wrote:

A sudden freakish windstorm hit Grover last night. For ten minutes windows rattled furiously, and old citizens began to recall the Great Wind of '97.

The storm died down as suddenly as it came, however. No damage was done except to the statue of General Wigginsby in Courthouse Square, which was blown from its pedestal, breaking off the head and one arm.

C. B. Tooly, chairman of the Grover Scrap Drive, expressed great pleasure at the accident. Members of the Civic Planning Commission were reportedly even more pleased at the removal of Grover's outstanding eyesore.

He tore the sheet out of the typewriter. Then a perversely puckish

thought struck him and he inserted another page. He headed it:

WHAT PEOPLE ARE SAYING

Coroner Jake Willis has apparently abandoned his thirty-year stand of strict atheism. "In times like these," he said last night, "we need faith in something outside ourselves. I've been a stubborn fool for too long."

Molly spoke as he stopped typing. "What kind of experiment, boss?"

"Let you know Friday," he said. "Hold on tight, Molly. If this experiment works—"

For a moment he leaned back in his chair, his eyes aglow with visions of fabulous possibilities. Then he laughed out loud and got on with his work.

III.

No paper was ever gotten out by a more distracted editor than that Friday's issue of the Grover *Sentinel*.

Two things preoccupied John MacVeagh. One, of course, was his purely rational experiment in scientific methods as applied to miracles. Not that he believed for an instant that whatever gestures Whalen Smith had woven in the air could impart to the *Sentinel* the absolute and literal faculty of printing the truth—and making it the truth by printing it. But the episode of the seventeen-year-old corpse had been a curious one. It deserved checking—rationally and scientifically, you understand.

And the other distraction was the effect upon Grover of the murder.

Almost, John MacVeagh was becoming persuaded that his crusading truthfulness had been a mistake. Perhaps there was some justice in the attitude of the blue noses who decry sensational publishing. Certainly the town's reaction to the sensational news was not healthy.

On the one hand, inevitably, there was the group—vocally headed by Banker Manson—who claimed that what they called the "smear campaign" was a vile conspiracy between MacVeagh and labor leader Tim Bricker.

That was to be expected. With Manson and his crowd, you pushed certain buttons and you got certain automatic responses. But MacVeagh had not foreseen the reverse of the coin he had minted: the bitterness and resentment among the little people.

"Whatddaya expect?" he overheard in Clem's barber shop. "You take a guy like Hitchcock, you don't think they can do anything to him, do you? Why, them guys can get away with—" The speaker stopped, as though that were a little more than he had meant to say.

But there were other voices to take up his accusation.

"Go ahead, Joe, say it. Get away with murder."

"Sure, who's gonna try to pin a rap on the guy that owns the town?"

"What good's a police chief when he's all sewed up pretty in Hitchcock's pocket?"

"And the *Sentinel* don't dare print half it knows. You all know

the editor's got a yen for Hitchcock's daughter. Well—"

"Somebody ought to do something."

That last was the crystallized essence of their feeling. Somebody ought to do something. And those simple words can be meaningful and ugly. They were on many tongues in Germany in the '20s.

John MacVeagh thought about the sorcerer's apprentice, who summoned the powers beyond his control. But, no, that was a pointed but still light and amusing story. This was becoming grim. If he and Molly could only crack this murder, cut through to the solution and dispel once and for all these unsatisfied grumblings—

But how was that to be done? They had so few facts, and nothing to disprove the fantastic notion of a wandering tramp invading the upper story of a fully occupied house without disturbing a soul save his victim. If some trick of psychological pressure could force a confession—

MacVeagh mused these problems as he walked back to the office after dinner on Thursday, and came regretfully to the conclusion that there was nothing to do but go on as per schedule: print Friday's regular edition with what follow-up was possible on the murder story, and dig and delve as best they could to reach toward the truth.

He frowned as he entered the office. Sidewalk loafers weren't so common on Spruce Street. They hung out more on South, or down near the station on Jackson. But this evening there was quite a flock of them within a few doors of the *Sentinel*.

Lucretius Sellers was chuckling over the copy he was setting up. "That sure is a good one you've got here on Jake, Johnny. Lord, I never did think I'd see the day— Maybe pretty soon we'll see that ascetic atheist taking a drink, too. Which reminds me—"

He caught MacVeagh's eye and paused. "Nope. Don't know what I was going to say, Johnny." He had been sober now since Whalen Smith's departure had caused his sudden drafting back to his old profession. And he knew, and MacVeagh knew, that the only way for him to stay sober was to climb completely on the wagon.

"Making out all right, Luke?" MacVeagh asked.

"Swell, Johnny. You know, you think you forget things, but you don't. Not things you learn with your hands, you don't. You ask me last week could I still set type and I'd say no. But there in my fingers —they still remembered. But look, Johnny—"

"Yes?"

"This item about the Wigginsby statue. It's a swell idea, but it just hasn't happened. I was past there not an hour ago, and the old boy's as big and ugly as ever. And besides, this says 'last night.' That means tonight—how can I set up what hasn't happened yet?"

"Luke, you've been grand to me. You've helped me out of a spot by

taking over. But if I can impose on you just a leetle bit more—please don't ask any questions about the general's statue. Just set it up and forget about it. Maybe I'll have something to tell you about that item tomorrow, maybe not. But in any case—"

His voice broke off sharply. He heard loud thumping feet in the front office. He heard Molly's voice shrilling, "What do you want? You can't all of you come crowding in here like this!"

Another voice said, "We're in, ain't we, sister?" It was a calm, cold voice.

"We've got work to do," Molly persisted. "We've got a paper to get out."

"That," said the voice, "is what *you* think." There was a jangling crash that could be made only by a typewriter hurled to the floor.

MacVeagh shucked his coat as he stepped into the front office. No time for rolling up sleeves. He snapped the lock on the door as he came through; that'd keep them from the press for a matter of minutes, anyway. He felt Luke at his heels, but he didn't look. He walked straight to the towering redhead who stood beside Molly's desk, the wrecked typewriter at his feet, and delivered the punch that he had neglected to give Phil Rogers.

The redhead was a second too late to duck, but he rolled with it. His left came up to answer it with a short jab, but suddenly he staggered back. His face was a dripping black mess, and he let out an angry roar. He charged in wide-open fury, and this time MacVeagh connected.

He'd recognized the redhead. Chief of Hitchcock's company police. He'd heard about him—how he had a tough skull and a tougher belly, but a glass chin. For once, MacVeagh reflected, rumor was right.

It was the silent quickness of the whole episode that impressed the other Hitchcock men and halted them for a moment. MacVeagh blessed Molly for her beautifully timed toss with the ink bottle. He glanced at her and saw that she now held her desk scissors ready in a stabbing grip. Luke Sellers held a wrench.

But they were three, and there were a dozen men in the room beside the fallen redhead. One of them stepped forward now, a swarthy little man whose face was stubbled in blue-black save for the white streak of an old knife scar.

"You shouldn't ought to of done that," he said. "Red didn't mean you no harm, not personal. No roughhouse, see? And if you listen to reason, why, O. K."

"And if I don't?" MacVeagh asked tersely.

"If you don't? Well, then it looks like we're going to have to smash up that pretty press of yours, mister. But there don't nobody need to get hurt. You ain't got a chance against the bunch of us. You might as well admit it if you don't want us to

have to smash up that pretty puss of yours, too."

"What can we do?" Molly whispered. "He's right; we can't stand them all off. But to smash the press—"

Luke Sellers waved his wrench and issued wholesale invitations to slaughter.

Scarface grinned. "Call off the old man, mister. He's apt to get hurt. Well, how's about it? Do you let us in nice and peaceable or do we smash down the door?"

MacVeagh opened a drawer of the desk and put his hand in. "You can try smashing," he said, "if you don't mind bullets."

"We don't mind bluffs," said Scarface dryly. "O. K., boys!"

MacVeagh took his empty hand from the drawer. There was only one thing to do, and that was to fight as long as he could. It was foolish, pointless, hopeless. But it was the only thing that a man could do.

The men came. Scarface had somehow managed wisely to drop to the rear of the charge. As they came, MacVeagh stooped. He rose with the wreck of the typewriter and hurled it. It took the first man out and brought the second thudding down with him. MacVeagh followed it with his fists.

Luke Sellers, as a long-standing authority on barroom brawls, claimed that the ensuing fight lasted less than a minute. It seemed closer to an hour to MacVeagh, closer yet to an eternity. Time vanished and there was nothing, no thinking, no reasoning, no problems, no values, nothing but the ache in his body as blows landed on it and the joy in his heart as his own blows connected and the salt warmth of blood in his mouth.

From some place a thousand light-years away he heard a voice bellowing, "Quit it! Lay off!" The words meant nothing. He paid no more attention to them than did the man who at the moment held his head in an elbow lock and pummeled it with a heavy ring-bearing fist. The voice sounded again as MacVeagh miraculously wriggled loose, his neck aching with the strain, and delivered an unorthodox knee blow to the ring-wearer. Still the voice meant nothing.

But the shot did.

It thudded into the ceiling, and its echoes rang through the room. The voice bellowed again, "Now do you believe I mean it? Lay off. All of you!"

The sound and smell of powder wield a weighty influence in civilian reactions. The room was suddenly very still. MacVeagh wiped sweat and blood from his face, forced his eyes open, and discovered that he could see a little.

He could see a tall gaunt man with crudely Lincolnian features striding toward him. He recognized the labor leader. "Sergeant Bricker, I presume?" he said groggily.

Bricker looked his surprise. "Sergeant? MacVeagh, you're punchy."

"Uh-huh." MacVeagh cast dim eyes on the two armed bodyguards at the door, and at the restlessly

obedient men of the company police. "Don't you know? You're the U. S. marines."

Then somebody pulled a black-dotted veil over the light, which presently went out altogether.

At first John MacVeagh thought it was a hangover. To be sure, he had never had a hangover like this. To be equally sure, he resolved that he never would again. A convention of gnomes was holding high revels in his skull and demonstrating the latest in rock-drilling gadgets.

He groaned and tried to roll over. His outflung arm felt emptiness, and his body started to slip. A firm hand shoved him back into place.

He opened his eyes. They ached even more resolutely when open, and he quickly dropped his lids. But he had seen that he was on the narrow couch in the back office, that Molly's hand had rescued him from rolling off, and that it was daylight.

"Are you O. K., boss?" Molly's voice was softer than usual.

"I'll be all right as soon as they shovel the dirt in on me."

"Can you listen while I tell you things?"

"I can try. Tell me the worst. What did I do? Climb chandeliers and sing bawdy ballads to the Ladies' Aid?"

He heard Molly laugh. "You weren't plastered, boss. You were in a fight. Remember?"

The shudder that ran through him testified to his memory. "I remember now. Hitchcock's little playmates. And Bricker showed up and staged the grand rescue and I passed out. Fine upstanding hero I am. Can't take it—"

"You took plenty. Doc Quillan was worried about a concussion at first. That's why he had us keep you here—didn't want to risk moving you home. But he looked at you again this morning and he thinks you'll be O. K."

"And I never even felt it. Exalted, that's what I must've been. Wonderful thing, lust of battle. This morning! Sunlight!" He forced his eyes open and tried to sit up. "Then it's Friday! The paper should be—"

Molly pushed him back. "Don't worry, boss. The *Sentinel* came out this morning. Everything's hunky-dory. Bricker lent us a couple of men to help, and it's all swell."

"Bricker— Where'd we be without him? A god out of the machinists' union. And the paper's out—" Suddenly he tried to sit up again, then decided against it. "Molly!"

"Yes, boss?"

"Have you been in Courthouse Square this morning?"

"No, boss. Doc Quillan said I ought to— I mean, there's been so much to do here in the office—"

"Have you seen Jake?"

"Uh-huh. That was funny. He dropped in this morning. I think he heard about the ruckus and wanted to see was there anything in his line of business. And has he changed!"

"Changed?" What voice MacVeagh had was breathless.

"He practically delivered a sermon. All about what a fool he's been and man cannot live by bread alone and in times like these and stuff. Grover isn't going to seem the same without Jake's atheism."

"Scientific method—" said MacVeagh.

"What do you mean, boss?"

"Molly, there's something I've got to tell you about the *Sentinel*. You'll think I'm crazy maybe, but there's too much to disregard. You've got to believe it."

"Boss, you know I believe every word you say." She laughed, but the laugh didn't succeed in discounting her obvious sincerity.

"Molly—"

"Hi, MacVeagh! Feeling fit again? Ready to take on a dozen more finks?"

MacVeagh focused his eyes on the gangling figure. "Bricker! I'm glad to see you. Almost as glad as I was last night. I don't feel too bright and loquacious yet, but when I do, consider yourself scheduled for the best speech of gratitude ever made in Grover."

Bricker waved one hand. "That's O. K. Nothing to it. United front. We've got to gang up—victims of oppression. Collective security."

"Anything I can do for you—"

"You're doing plenty." Bricker pulled up a chair and sat down, his long legs sprawling in front of him. "You know, MacVeagh, I had you figured wrong."

"How so?"

"I thought you were just another editor. You know, a guy who joins liberal committees and prints what the advertisers want. But I had the wrong picture. You've got ideas and the guts to back 'em."

MacVeagh basked. Praise felt good after what he'd been through. But Bricker's next words woke him up.

"How much did you try to shake Hitchcock down for?"

"How much— I— Why— Look, Bricker, I don't get you."

Bricker eased himself more comfortably into the chair and said, "He don't shake easy. Don't I know! But a tree with them apples is worth shaking."

"You mean you're . . . you've been blackmailing Hitchcock?"

"I can talk to you, MacVeagh. Nobody else in this town has got the guts or the sense to see my angle. But you've got angles of your own, you can understand. Sure I've been shaking him down. Before I moved in on that local, it sounded like a Socialist Party pink tea. 'Better working conditions. A living wage. Rights of labor.' " He expressed his editorial comment in a ripe raspberry. "I saw the possibilities and I took over. Old Hasenberg and the rest of those boys—they don't know from nothing about politics. A few plants, a little pressure, and I was in—but for good. Then I put it up to H. A.: 'How much is it worth to you to get along without strikes?' "

MacVeagh opened his mouth, but the words stuck there.

"So you see?" Bricker went on calmly. "We can work together. The more pressure you put on Hitchcock with this murder scandal, the more he can't afford to risk labor trouble. And vice, as the fellow says, versa. So you can count on me any time you need help. And when this blows over—There's lots more can happen, MacVeagh, lots more. Between us, we can wind up owning this town.

"Keep the murder story running as long as you can. That's my advice. If it begins to look like a solution that'll clear Hitchcock and his family, keep it quiet. Keep the pressure on him, and he'll kick through in the end. I know his type— What it is you're really after, MacVeagh? Just cash, or the daughter?"

MacVeagh was still speechless. He was glad that Luke Sellers came in just then. It kept him from sputtering.

Luke was fair to middling speechless himself. He nodded at Bricker and Molly and finally he managed to say, "Johnny, if I hadn't been on the wagon for two days I swear I'd go on and stay there!"

Bricker looked interested. "What's happened?"

"You were in Courthouse Square," said John MacVeagh.

"That's it, all right. I was in Courthouse Square. And General Wigginsby has enlisted in the scrap drive. Funny freak wind last night, the boys at Clem's say. Didn't do any other damage. But, Johnny, how you knew—"

"What is all this?" Bricker broke in. "What's the angle on the statue, MacVeagh?"

The editor smiled wearily. "No angle, Bricker. Not the way you mean. Nothing you'd understand. But maybe something that's going to make a big difference to you and your angles."

Bricker glanced at Molly and touched his head. "Still don't feel so good, huh? Well, I've got to be getting along. I'll drop in again off and on, MacVeagh. We've got plans to make. Glad I helped you last night and remember: keep up the good work."

Luke Sellers looked after the lean figure. "What's he mean by that?"

"Not what he thinks he means," said John MacVeagh, "I hope. Out of the frying pan—"

Molly shuddered. "He's as bad as H. A. Hitchcock."

"Just about. And if I hush up the murder, I'm playing H. A.'s game, and if I give it a big play, I'm stooging for Bricker's racket. I guess," he said thoughtfully, "there's only one thing to do—Molly, Luke! We're getting out another extra."

"Life," said Luke Sellers, "used to be a sight simpler before I went and got sober. Now nothing makes any sense. An extra? What for?"

"We're going to get out another extra," MacVeagh repeated. "Tomorrow. And the banner head is going to be: MURDERER CONFESSES."

"But, boss, how do we know—"

Luke Sellers was thinking of General Wigginsby. "Hush, Molly," he said. "Let's see what happens."

IV.

MURDERER CONFESSES

At a late hour last night, the murderer of Mrs. Agnes Rogers walked into the Grover police station and gave himself up. Police Chief J. B. Hanby is holding him incommunicado until his confession has been checked.

The murderer's identity, together with a full text of his confession, will be released in time for a further special edition of the *Sentinel* later today, Chief Hanby promises.

This story was set up and printed in the Grover *Sentinel* late Friday night and was on sale early Saturday morning. At eleven fifty-five

p. m., Friday, Neville Markham, butler to Mrs. Agnes Rogers, walked into the police station and confessed to the murder.

"'The butler did it,'" said Molly between scornful quotation marks.

"After all," said John MacVeagh, "I suppose sometime the butler must do it. Just by the law of averages."

It was Saturday night, and the two of them were sitting in the office talking after the frantic strain of getting out the second extra of the day. Luke Sellers had gone home and gone to bed with a fifth.

"A man can stay a reformed character just so long," he said, "and you won't be needing me much for a couple of days. Unless," he added, "you get any more brilliant inspirations before the fact. Tell me, Johnny, how did you—" But he let the query trail off unfinished and went home, clutching his fifth as though it were the one sure thing in a wambling world.

The second extra had carried the butler's whole story: how he, a good servant of the Lord, had endured as long as he could his mistress' searching for strange gods until finally a Voice had said to him, "Smite thou this evil woman," and he smote. Afterward he panicked and tried to make it look like robbery. He thought he had succeeded until Friday night, when the same Voice said to him, "Go thou and proclaim thy deed," and he went and proclaimed.

MacVeagh wished he'd been there. He'd bet the butler and Chief Hanby had fun swapping texts.

"'The butler did it,'" Molly repeated. "And I never so much as mentioned the butler in my stories. You don't even think of butlers—not since the twenties."

"Well, anyway, the murder is solved. That's the main thing. No more pressure from either Hitchcock or Bricker. No more mumbling dissension in Grover."

"But don't you feel . . . oh, I don't know . . . cheated? It's no fun when a murder gets solved that way. If you and I could've figured it out and broke the story, or even if Chief Hanby had cracked it with dogged routine— But this way it's so flat."

"Weary, flat, and stale, Molly, I agree. But not unprofitable. We learned the truth, and the truth has solved a lot of our problems."

"Only—"

"Yes, Molly?"

"Only, boss— How? I've got to know how. How could you know that the butler was going to hear another Voice and confess? And that isn't all. Luke told me about General Wigginsby."

Molly had never seen John MacVeagh look so serious. "All right," he said. "I've got to tell somebody, anyway. It eats at me— O. K. You remember how Whalen left so abruptly? Well—"

Molly sat wide-eyed and agape when he finished the story. "Ordinarily," she said at last, "I'd say you were crazy, boss. But Old Man

Herkimer and General Wigginsby and the butler— What *was* Whalen—"

MacVeagh had wondered about that, too. Sometimes he could still almost feel around the office the lingering presence of that gaunt old man with the books you couldn't read and the beard that wasn't there. What had he been?

"And what're you going to do, boss? It looks like you can do practically anything. If anything we print in the paper turns out to be the truth— What *are* you going to do?"

"Come in!" MacVeagh yelled, as someone knocked on the door.

It was Father Byrne, followed by a little man whose blue eyes were brightly alive in his old seamed face. "Good evening, John, Molly. This is Mr. Hasenberg—you've probably met him. Used to head the union out at the Hitchcock plant before Tim Bricker moved in."

"Evening, folks," said Mr. Hasenberg. He tipped his cap with a hand which was as sensitive and alive as his eyes—the hardened, ready hand of a skilled workman.

MacVeagh furnished his guests with chairs. Then he said, "To what am I indebted and such?"

"Mr. Hasenberg has a problem, John, and it's mine, too. And it's yours and everybody's. Go on, sir."

Mr. Hasenberg spoke in a dry, precise tone. "Bricker's called a strike. We don't want to strike. We don't like or trust Hitchcock, but we do trust the arbitration committee that Father Byrne's on. We've accepted their decision, and we still hope we can get the management to. But Bricker put over the strike vote with some fancy finagling, and that'll probably mean the army taking over the plant."

"And I know Bricker—" said MacVeagh. "But where do I come in?"

"Advice and publicity," said Father Byrne. "First, have you any ideas? Second, will you print this statement Mr. Hasenberg's prepared on the real stand of the men, without Bricker's trimmings?"

"Second, of course. First—" He hesitated. "Tell me, Mr. Hasenberg, if you were free of Bricker, do you think you could get the management to come to terms?"

"Maybe. They ain't all like Hitchcock and Phil Rogers. There's some of them want to get the stuff out and the war won as bad as we do. Now ever since Mathers went to Washington, the post of general manager's been vacant. Supposing now Johansen should get that appointment—he'd string along with the committee's decision, I'm pretty sure."

MacVeagh pulled a scratch pad toward him. "Johansen—. First name?"

"Boss! You aren't going to—"

"*Sh,* Molly. And now, Father, if you could give me an outline of the committee's terms—"

So Ingve Johansen became general manager of the Hitchcock plant and Mr. Hasenberg resumed control of the union after evidence had been

uncovered which totally discredited Tim Bricker, and the arbitrated terms of the committee were accepted by labor and management and the joint labor-management council got off to a fine start, all of which the burghers of Grover read with great pleasure in the *Sentinel*.

There was another important paragraph in that Friday's issue: an announcement that starting in another week the *Sentinel* was to become a daily.

"We've got to, Molly," MacVeagh had insisted. "There's so much we can do for Grover. If we can settle the troubles at Hitchcock, that's just a start. We can make this over into the finest community in the country. And we haven't space in one small weekly edition. With a daily we can do things gradually, step by step—"

"And what, boss, do we use for money? That'll mean more presses, more men, more paper. Where's the money coming from?"

"That," said John MacVeagh, "I don't know."

And he never did. There was simply a small statement in the paper:

ANONYMOUS BENEFACTOR ENDOWS *SENTINEL*

Mr. Manson was never able to find a teller who remembered receiving that astonishingly large deposit made to the credit of the *Sentinel's* account; but there it was, all duly entered.

And so the Grover *Sentinel* became a daily, printing the truth.

V.

If it's all right with you, we'll skip pretty fast over the next part of the story. The days of triumph never make interesting reading. The rise and fall—that's your dramatic formula. The build-up can be stirring and the letdown can be tragic, but there's no interest in the flat plateau at the top.

So there's no need to tell in detail all that happened in Grover after the *Sentinel* went daily. You can imagine the sort of thing: How the Hitchcock plant stepped up its production and turned out a steady flow of war matériel that was the pride of the county, the State, and even the country. How Doc Quillan tracked down, identified, and averted the epidemic that threatened the workers' housing project. How Chief Hanby finally got the goods on the gamblers who were moving in on the South Side and cleaned up the district. How the Grover Red Cross drive went a hundred percent over its quota. How the expected meat shortage never materialized— You get the picture.

All this is just the plateau, the level stretch between the Rise and the fall. Not that John MacVeagh expected the fall. Nothing like that seemed possible, even though Molly worried.

"You know, boss," she said one day, "I was reading over some of the books I used to love when I was

a kid— This wish—it's magic, isn't it?"

MacVeagh snapped the speaking-box on his desk and gave a succinct order to the assistant editor. He was the chief executive of a staff now. Then he turned back and said, "Why, yes, Molly, I guess you might call it that. Magic, miracle —what do we care so long as it enables us to accomplish all we're doing?"

"I don't know. But sometimes I get scared. Those books, especially the ones by E. Nesbit—"

MacVeagh grinned. "Scared of kids' books?"

"I know it sounds silly, boss, but kids' books are the only place you can find out about magic. And there seems to be only one sure thing about it: You can know there's a catch to it. There's always a catch."

MacVeagh didn't think any further about that. What stuck in his mind was phrases like those he heard down at Clem's barber shop:

"Hanged if I know what's come over this burg. Seems like for a couple of months there just can't nothing go wrong. Ever since that trouble out at the plant when they got rid of Bricker, this burg is just about perfect, seems like."

Those were fine words. They fed the soul. They made you forget that little nagging undefined discontent that was rankling underneath and threatening to spoil all this wonderful miracle—or magic, if you prefer. They even made you be polite to H. A. Hitchcock when he came to pay his respects to you after the opening of the new Sentinel Building.

He praised MacVeagh as an outstanding example of free enterprise. (A year or so ago he would have said rugged individualism, but the phrase had been replaced in his vocabulary by its more noble-sounding synonym.) He probed with man-to-man frankness trying to learn where the financial backing had come from. He all but apologized for the foolish misunderstanding over the butler's crime. And he ended up with a dinner invitation in token of reconciliation.

MacVeagh accepted. But his feelings were mixed, and they were even more mixed when he dropped into the office on the night of the dinner, resplendent in white tie and tails, to check up some last-minute details on the reports of the election for councilman. He had just learned that Grizzle had had some nasty semi-Fascist tie-ups a year earlier, and must not be allowed to be elected.

"I don't know what's the matter," he confided to Molly after he'd attended to business. "I ought to be sitting on top of the world, and somehow I'm not. Maybe I almost see what the trouble is: No heavy."

"What does that mean, boss?"

"No opposition. Nothing to fight against. Just wield my white magic benevolently and that's that. I need a black magician to combat me on my own level. You've got to have a heavy."

"Are you so sure," Molly asked,

"that yours is white magic?"

"Why—"

"Skip it, boss. But I think I know one thing that's the matter. And I think, God help me, that you'll realize it tonight."

Molly's words couldn't have been truer if she had printed them in the *Sentinel*.

The party itself was painful. Not the dinner; that was as admirable as only H. A. Hitchcock's chef could contrive. But the company had been carefully chosen to give MacVeagh the idea that, now that he was making such a phenomenal success of himself, he was to be welcomed among the Best People of Grover.

There were the Mansons, of course, and Phil Rogers, and Major General Front, U. S. A., retired, and a half dozen others who formed a neat tight little society of mutual admiration and congratulation. The only halfway human person present seemed to be the new general manager of the plant, Johansen; but he sat at the other end of the table from MacVeagh, in the dominating shadow of Mrs. Manson's bosom.

MacVeagh himself was loomed over by Mrs. Front, who gave her own interpretation of the general's interpretation of the plans of the High Command. He nodded dutifully and gave every impression of listening, while he saw and heard and felt nothing but Laura Hitchcock across the table.

Every man dreams of Helen, but to few is it ever given to behold the face that can launch a thousand ships. This is well. Life is complicated enough, if often pleasantly so, when we love a pretty girl, a charming girl, a sweet girl. But when we see beauty, pure and radiant and absolute, we are lost.

MacVeagh had been lost since he first arrived in Grover and old Jonathan Minter sent him to cover Laura's coming-out party. After that she had gone East to college and he had told himself that it was all the champagne. He couldn't have seen what his heart remembered.

Then she came back, and since then no moment of his life had ever seemed quite complete. He never knew how he stood with her; he never even knew what she was like. He would begin to get acquainted with her, and then she would be off to visit her aunt in Florida or her cousins, before the war, in France. Since the war she had stayed in Grover, busy with the various volunteer activities entailed by her position as H. A. Hitchcock's daughter. He was beginning to know her, he thought; he was beginning to reach a point where—

And then came the murder and the quarrel with Hitchcock. And this was the first time that he had seen her since then.

She smiled and seemed friendly. Evidently, like her father, she looked upon MacVeagh with a new regard since he had begun his mysteriously spectacular climb to success.

She even exchanged an intimate and shuddering glance with him after dinner, when Mrs. Manson began to sing American folk ballads

in the drawing room. MacVeagh took courage and pointed to the open French window behind her.

His throat choked when she accepted the hint. He joined her on the lawn, and they strolled quietly over to the pond, where the croaking monotone of the frogs drowned out the distant shrilling of Mrs. Manson.

"What gets me," MacVeagh grunted, "is the people that call all that wonderful stuff 'ballads.' They're just plain songs, and good ones. And where they belong is a couple of guys that love them trying them out with one foot on the rail and the barkeep joining in the harmony. When the fancy folk begin singing them in drawing rooms with artistically contrived accompaniments—"

"I guess I'll just have to do without them then," said Laura. "I can't see myself in your barroom."

"Can't you?" There must have been something in the moon that stirred MacVeagh's daring. "Why not? There's a good, plain, honest bar not a mile from here that I like. Why don't we ditch the party and go—"

"Oh, John. Don't be silly. We couldn't. We're not bright young people and it isn't smart to be like that any more. Everybody's serious now; this is war. And besides, you know, you have to think more of the company you're seen in now."

"Me?"

"Of course, John. Father's been telling me how wonderfully you're coming on. You're getting to be somebody. You have to look out for appearances."

"I'm afraid"—MacVeagh grinned—"I have congenitally low tastes. Can't I be a big-shot editor and still love the riff and the raff?"

"Of course not." She was perfectly serious, and MacVeagh felt a twinge of regret that such perfection of beauty was apparently not compatible with the least trace of humor. "You have to be thinking about settling down now."

"Settling down—" he repeated. This was so pat a cue, if he could get that lump out of his throat and go on with it. "You're right, Laura. At my age—" His voice was as harsh a croak as the frogs'.

"What's the matter, John?"

He harrumphed. "Something in my throat— But it's true. A man needs a wife. A man—"

"Marriage is a wonderful thing, isn't it? I've only just lately been realizing how wonderful."

He leaned toward her. "Laura—"

"John, I feel like telling you something, if you'll promise not to go printing it."

"Yes—"

"It's a secret yet, but—I'm going to be married."

There was a distant patter of applause for Mrs. Manson, and the frogs croaked louder than ever. These were the only noises that accompanied the end of the world.

For a moment there was a blankness inside John MacVeagh. He felt as though he had received a harder blow than any taken in the

fight with Hitchcock's stooges. And then came the same reaction as he had known to those blows: the lust for battle. The lump in his throat was gone and words were pouring out. He heard the words only half-consciously, hardly aware that his own brain must be formulating them. He heard them, and was aghast that any man could lay bare his desires so plainly, his very soul.

They were pitiful words, and yet powerful—plaintive, and yet demandingly vigorous. And they were finally stopped by Laura's voice cutting across them with a harsh, "John!"

"John," she said again more softly. "I— Believe me, I never knew you felt like this I never would have— You're nice. You're sweet, and I like you. But I couldn't ever love you. I couldn't ever possibly marry you. Let's go back inside, John. Mrs. Manson must be through by now. What's the matter? Aren't you coming? John. Please."

But John MacVeagh stood motionless by the pool while Laura went on back to the big house. He listened to the frogs for a while and then he went to the good, plain honest bar not a mile away and listened to some "ballads."

After the third whiskey the numbness began to lift. He began to see what he had to do. It must be Phil Rogers she was marrying. But he was her cousin, wasn't he? Oh, no —he was her aunt's husband's nephew. That made it all right.

But there was a way out. There was the one sure way. All right, so it was selfish. So it was abusing a great and mysterious power for private ends. But the custodian of that power had some privileges, didn't he? And if he had one and only one prayer on earth—

After the seventh whiskey he went back to the office. It took him three tries to turn out legible copy. He hadn't written a word for the Social Notes since Molly had joined the staff, and besides the machine seemed to resent the drunken pawing of his fingers.

But he made it at last, and it appeared in the next day's *Sentinel,* and H. A. Hitchcock said to his daughter, "Wish you'd told me, first, Laura. But I must say I think it's a fine idea. He's a comer, that boy. And maybe if you can use a little influence with him— Useful thing, having a newspaper editor in the family. You can keep him in hand."

What came next is more plateau that we don't need to examine in detail. At least, apparently plateau; a discerning eye might see the start of the fall already. Because lives don't make nice clear graphs. The rise and the fall can be going on at once, and neither of them noticeable.

So we can accept as read all the inevitable preparations for such an event as the wedding of H. A. Hitchcock's daughter, to the most promising young man in Grover. We can pass over the account of the white splendor of the wedding day

and the curiously anticlimactic night that followed.

That was the night, too, when Molly, who never drank anything but beer, brought two fifths of whiskey to Luke Sellers' boarding-house and sat up all night discussing them and other aspects of life. But the scene would be difficult to record. Most of what she said wouldn't make any sense to a reader. It didn't make much sense to Luke, nor to Molly herself the next morning.

We can skip by the details of how Grover solved the man-power shortage in the adjacent farming territory, and of how liberalism triumphed in the council election. We can go on to a Saturday night three months after Whalen Smith departed, leaving a wish behind him.

John MacVeagh had been seeing quite a bit of Ingve Johansen since the Hitchcock dinner party. He was a man you kept running into at the luncheons you had to attend, and as your father-in-law's general manager he was a man you had to have to dinner occasionally.

And MacVeagh's first impression was confirmed: he was a good guy, this Johansen. A guy you'd be happy to have in a cracker-barrel session, only those sessions never seemed to come off any more. Running a daily was a very different job from being editor of the old weekly *Sentinel*. And when so much responsibility rested on your slightest word—you didn't have time for a good bull session any more.

But Johansen would have belonged, just as Mr. Hasenberg would. Sometime he must get the two of them together away from the plant. For an executive like Johansen no more deserved to be judged by H. A. than Mr. Hasenberg did to be rated like Bricker.

Besides all the lines of race or religion or country or class, MacVeagh was beginning to feel, there was another basic dividing line among men: There are the good guys, the Men of Good Will, if you want to be fancy about it, and there are—others.

Ingve Johansen was of the first; and that's why it hurt MacVeagh, when he dropped in that Saturday at his good, plain honest bar for a quick one, to find Johansen reduced to telling the bartender the story of his life.

MacVeagh stayed in the bar longer than he'd intended. He steered the manager over to the corner table and tried gently to find out what was eating him. For this was no ordinary drinking, but some compelling obsession.

"Look," MacVeagh said finally, "I know it's none of my business, and if you want to tell me to go jump in a lake I'll try and find one. But you've got something gnawing inside you, and if there's anything I can do to help you—" You can't tell men that you have the power to ease their troubles; but if you can once learn the troubles—

Johansen laughed. His heavy shock of blond hair bobbled with his laughter. He said, "How do you

expect me to feel after you stole my girl?"

MacVeagh sat up straight. "Your girl? You mean you're the one that she—"

"We were going to be married. Hadn't sounded out H. A. yet, but it was all set. And first thing I know I read that piece in your paper—"

There was nothing to say. MacVeagh just sat there. He'd been sure it was the contemptible Phil Rogers. His conscience had felt clear. But now, watching the man she should have married—

"The worst thing," Johansen added, "is that I like you, MacVeagh. I don't even want to wring your neck for you. But Laura'd better be happy."

"She will be," said MacVeagh flatly. He rose from the table stiffly, made arrangements with the bartender about getting Johansen home, and walked out. There was nothing he could do.

No, he couldn't even be generous and give her back. The scandal of a divorce— Magic doesn't work backward. Was this the catch that Molly talked about?

The second thing that happened that night was unimportant. But it makes a good sample of a kind of minor incident that cropped up occasionally on the plateau.

On his way to the office, MacVeagh went past the Lyric. He absently read the marquee and saw that the theater was playing "Rio Rhythm." Metropolis Pictures' latest well-intentioned contribution to the Good Neighbor Policy. There were no patrons lined up at the box office—no one in the lobby at all save Clara in her cage and Mr. Marcus, looking smaller and unhappier than ever.

He took the usual huge stogie out of his mouth and waved a despondent greeting to MacVeagh. The editor paused. "Poor house tonight?" he asked sympathetically.

"Poor house, he says!" Mr. Marcus replaced the cigar and it joggled with his words. "Mr. MacVeagh, I give you my word, even the ushers won't stay in the auditorium!"

MacVeagh whistled. "That bad?"

"Bad? Mr. MacVeagh, 'Rio Rhythm' is colossal, stupendous, and likewise terrific. But it smells yet."

"I don't get it."

"Stink bombs, Mr. MacVeagh. Stink bombs they throw yet into the Lyric. A strictly union house I run, I pay my bills, I got no competitors, and now comes stink bombs. It ain't possible. But it's true."

MacVeagh half guessed the answer even then. He got it in full with Molly's first speech when he reached the office.

"Boss, you've got to look after things better yourself. I don't know how the copy desk let it get by. Of course, that kid you put onto handling movie reviews is green; he doesn't know there's some things you just don't say in a paper, true though they may be. But look!"

MacVeagh looked, knowing what

he would see. The movie review, a new department added experimentally since the *Sentinel* had expanded so, stated succinctly: " 'Rio Rhythm' stinks."

John MacVeagh was silent for a long count. Then he said wryly, "It's quite a responsibility, isn't it, Molly?"

"Boss," she said, "you're the only man in the world I'd trust with it."

He believed her—not that it was true, but that she thought it was. And that was all the more reason why—

"You're kidding yourself, Molly. Not that I don't like to hear it. But this is a power that should never be used for anything but the best. I've tried to use it that way. And tonight I've learned that—well, I'll put in *inadvertently* to salve my conscience—that I'm ruining one man's business and have destroyed another's happiness.

"It's too much power. You can't realize all its ramifications. It's horrible—and yet it's wonderful, too. To know that it's yours—it . . . it makes you feel like a god, Molly. No, more than that: Like God."

There was an echo in the back of his mind. Something gnawing there, something remembered—

Then he hear the words as clearly as though they were spoken in the room. Father Byrne's unfinished sentence: "If you were God—" And Jake Willis' question that had prompted it: "Why doesn't God stop the war?"

Molly watched the light that came on in the boss' eyes. It was almost beautiful, and still it frightened her.

"Well," said John MacVeagh, "why don't I?"

It took a little preparing. For one thing, he hadn't tried anything on such a global scale before. He didn't know if influence outside of Grover would work, though truth should be truth universally.

For another, it took some advance work. He had to concoct an elaborate lie about new censorship regulations received from Washington, so that the tickers were moved into his private office and the foreign news came out to the rewrite staff only over his desk.

And the public had to be built up to it. It couldn't come too suddenly, too unbelievably. He prepared stories of mounting Axis defeats. He built up the internal dissension in Axis countries.

And it worked. Associated Press reports from the battlefields referred to yesterday's great victory which had been born on his typewriter. For one last experiment, he assassinated Goering. The press-association stories were crowded the next day with rumors from neutral countries and denials from Berlin.

And finally the front page of the Grover *Sentinel* bore nothing but two words:

WAR ENDED

MacVeagh deleted the exclamation points from the proof. There was no need for them.

VI.

Excerpts from the diary of Hank Branson, F. B. I.:
Washington, June 23rd.

This looks to be the strangest case I've tackled yet. Screwier than that Nazi ring that figured out a way to spread subversive propaganda through a burlesque show.

The chief called me in this morning, and he was plenty worried. "Did you ever hear of a town called Grover?" he asked.

Of course I had. It's where the Hitchcock plant is. So I said sure and waited for him to spill the rest of it. But it took him a while. Almost as though he was embarrassed by what he had to say.

At last he came out with, "Hank, you're going to think I'm crazy. But as best we can figure it out, this is the situation: All this country is at war with the Axis—excepting Grover."

"Since when," I wanted to know. "do city councils have to declare war?"

So he tried to explain. "For two weeks now, the town of Grover has had no part in the war effort. The Hitchcock plant has stopped producing and is retooling for peace production. The Grover draft board hasn't sent in one man of its quota. The Grover merchants have stopped turning in their ration stamps. Even the tin-can collections have stopped. *Grover isn't at war.*"

"But that's nuts," I said.

"I warned you. But that's the case. We've sent them memoranda and warnings and notifications and every other kind of governmental scrap paper you can imagine. Either they don't receive them or they don't read them. No answers, no explanations. We've got to send a man in there to investigate on the spot. And it's got to be from our office. I don't think an army man could keep his trigger finger steady at the spectacle of a whole community resigning from the war."

"Have you got any ideas?" I asked. "Anything to give me a lead."

The chief frowned. "Like you say, it's nuts. There's no accounting for it. Unless— Look, now you'll really think I'm crazy. But sometimes when I want to relax, I read those science-fiction magazines. You understand?"

"They're cheaper than blondes," I admitted.

"So this is the only thing that strikes me: some kind of a magnetic force field exists around Grover that keeps it out of touch with the rest of the world. Maybe even a temporal field that twists it into a time where there isn't any war. Maybe the whole thing's a new secret weapon of the enemy, and they're trying it out there. Soften up the people for invasion by making them think it's all over. Go ahead. Laugh. But if you think my answer's screwy—*and* it is—just remember: it's up to you to find the right one."

So that's my assignment, and I never had a cockeyeder one: Find

out why one town, out of this whole nation, has quit the war flat.

Proutyville, June 24th.

At least Proutyville's what it says on the road map, though where I am says just MOTEL and that seems to be about all there is.

I'm the only customer tonight. The motel business isn't what it used to be. I guess that's why the garage next door is already converted into a blacksmith's job.

"People that live around here, they've got to get into town now and then," the old guy that runs it said to me. "So they're pretty well converted back to horses already."

"I've known guys that were converted to horses," I said. "But only partially."

"I mean, converted to the use of horses." There was a funny sort of precise dignity about this correction. "I am pleased to be back at the old work."

He looked old enough to have flourished when blacksmithing was big time. I asked, "What did you do in the meanwhile?"

"All kinds of metal trades. Printing mostly."

And that got us talking about printing and newspapers, which is right up my alley because Pop used to own the paper in Sage Bluffs and I've lately been tied up with most of the department's cases involving seditious publications.

"A paper can do a lot of harm," I insisted. "Oh, I know it's been the style to cry down the power of the press ever since the 1936 and 1940 elections. But a paper still has a lot of influence even though it's hard to separate cause and effect. For instance, do Chicagoans think that way because of the *Tribune*, or is there a *Tribune* because Chicagoans are like that?"

From there on we got practically philosophical. He had a lot of strange ideas, that old boy. Mostly about truth. How truth was relative, which there's nothing new in that idea, though he dressed it up fancy. And something about truth and spheres of influence—how a newspaper, for instance, aimed at printing The Truth, which there is no such thing as, but actually tried, if it was honest, to print the truth (lower case) for its own sphere of influence. Outside the radius of its circulation, truth might, for another editor, be something quite else again. And then he said, to himself like, "I'd like to hear sometime how that wish came out," which didn't mean anything but sort of ended that discussion.

It was then I brought up my own little problem, and that's the only reason I've bothered to write all this down, though there's no telling what a crackpot blacksmith like that meant.

It's hard to get a clear picture of him in my mind now while I'm writing this. He's tall and thin and he has a great beak of a nose. But what I can't remember is does he have a beard? I'd almost swear he does, and still—

Anyway, I told him about Grover, naming no names, and asked him

what he thought of that set-up. He liked to speculate; O. K., here was a nice ripe subject.

He thought a little and said, "Is it Grover?" I guess some detail in my description of the plant and stuff tipped it off. I didn't answer, but he went on: "Think over what I've said, my boy. When you get to Grover and see what the situation is, remember what we've talked about tonight. Then you'll have your answer."

This prating hasn't any place in my diary. I know that. I feel like a dope writing it down. But there's a certain curious compulsion about it. Not so much because I feel that this is going to help explain whatever is going on in Grover, but because I've got this eerie sensation that that old man is like nothing else I've ever met in all my life.

It's funny. I keep thinking of my Welsh grandmother and the stories she used to tell me when I was so high. It's twenty years since I've thought of those.

Grover, June 25th.

Nothing to record today but long tiresome driving over deserted highways. I wonder what gas rationing has done to the sales of Burma Shave.

The roads were noticeably more populated as I got near Grover, even though it was by then pretty late. Maybe they've abolished that rationing, too.

Too late to do any checking now; I'll get to work tomorrow, with my usual routine of dropping in at the local paper first to gather a picture.

Grover, June 26th.

Two of the oddest things in my life with the F. B. I. have happened today. One, the minor one, is that I've somehow mislaid my diary, which is why this entry is written on note paper. The other, and what has really got me worried, is that I've mislaid my job.

Just that. I haven't the slightest idea why I am in Grover.

It's a nice little town. Small and cozy and like a thousand others, only maybe even more pleasant. It's going great guns now, of course, reveling, like every place else, in the boom of post-war prosperity.

There's a jiggy catchy chorus in "The Chocolate Soldier" that goes "Thank the Lord the war is over, tum-tee-tum tee-tum tee-tover—" Nice happy little tune; it ought to be the theme song of these times. It seems like only yesterday I was stewing, and all the rest of the department with me, about saboteurs and subversive elements and all the other war-time problems.

Only now I've got something else to stew about, which is why I'm here.

I tried to get at it indirectly with John MacVeagh, a stolid sort of young man with heavy eybrows and a quiet grin, who edits the Grover *Sentinel*—surprisingly large and prosperous paper for a town this size. Daily, too.

I liked MacVeagh—good guy. Says he didn't serve in the war be-

cause a punctured eardrum kept him out, but says he tried his best to see Grover through it on the home front. We settled down to quite a confab, and I deliberately let it slip that I was from the F. B. I. I hoped that'd cue him into, "Oh, so you're here on the Hungadunga case, huh?" But no go. No reaction at all, but a mild wonder as to what a G-man was doing in Grover.

I didn't tell him.

I tried the same stunt on the chief of police, who kept quoting Bible texts at me and telling me about a murder they had a while back and how he solved it. (Would you believe it? The butler did it! Honest.) Nothing doing on the reaction business. Grover, ever since the famous murder, has had the most crime-free record in the State. Nothing in my line.

Nothing to do but sleep on it and hope tomorrow turns up either my diary or my memory.

Grover, June 27th.

I like Grover. Now that the war's over, the department'll be cutting down on its staff. I might do worse than resign and settle down here. I've always wanted to try some pulp writing to show up the guys that write about us. And in a few years Chief Hanby'll be retiring, and if I'm established in the community by then—

And I'm going to have to get out of the department if things go on like this. Had a swell day today—visited the Hitchcock plant and saw their fabulous new work with plas-

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ties in consumers' goods, had dinner at MacVeagh's and went out to a picture and a bar on a double date with him and his wife—who is the loveliest thing I ever saw, if you like icicles—and a girl from the paper, who's a nice kid.

But I still don't know from nothing.

I sent a wire back to the chief:

WIRE FULL OFFICIAL INSTRUCTIONS AT ONCE MY MISSION LOCAL POLICE CHIEF WANTS FORMAL O. K.

I know, I know. It's a thin story, and it probably won't work. But I've got to try something.

Grover, June 28th.

I got an answer:

YOUR QUOTE MISSION UNQUOTE ALL A MISTAKE. RETURN WASHINGTON.

I don't get it. Maybe when I see the chief again—

So now regretfully we bid farewell to the sunny, happy town of Grover, nestling at the foot—

Proutyville, June 29th.

As you—whoever you are and whatever you think you're doing reading other people's diaries—can see, my diary's turned up again. And that I am, as they say in the classics, stark raving mad seems about the only possible answer.

Maybe I thought the chief was crazy. What's he going to call me?

I read over again what the old guy with—or without—the beard said. Where he said I'd find the answer. I didn't.

So I went over to see him again, but he wasn't there. There was a fat man drinking beer out of a quart bottle, and as soon as he saw me he poured a glassful and handed it over unasked.

It tasted good and I said, "Thanks," and meant it. Then I described the old boy and asked where was he.

The fat man poured himself another glass and said, "Damfino. He come in here one day and says, 'See you're setting up to shoe horses. Need an old hand at the business?' So I says, 'Sure, what's your name?' and he says, 'Wieland,' leastways that's what I think he says, like that beer out in California. 'Wieland,' he says. 'I'm a smith,' so he goes to work. Then just this morning he up and says, 'I'm needed more elsewhere,' he says, 'I gotta be going,' he says, 'now you been a swell employer,' he says, 'so if you—' " The fat man stopped. "So he up and quit me."

"Because you were a swell employer?"

"That? That was just something he says. Some foolishness. Hey, your glass is empty." The fat man filled my glass and his own.

The beer was good. It kept me from quite going nuts. I sat there the most of the evening. It wasn't till late that a kind of crawly feeling began to hit me. "Look," I said. "I've drunk beer most places you can name, but I never saw a quart bottle hold that many glasses."

The fat man poured out some more. "This?" he said, offhandlike. "Oh, this is just something Wieland give me."

And I suppose I'm writing all this out to keep from thinking about what I'm going to say to the chief. But what can I say? Nothing but this:

Grover isn't at war. And when you're there, it's true.

Washington, June 30th.

I'm not going to try to write the scene with the chief. It still stings, kind of. But he softened up a little toward the end. I'm not to be fired; just suspended. Farnsworth's taking the Grover assignment. And I get a rest—

Bide-a-wee Nursing Home,
May 1st.

VII.

It was hot in the office that June night. John MacVeagh should have been deep in his studies, but other thoughts kept distracting him.

These studies had come to occupy more and more of his time. His responsibilities were such that he could not tolerate anything less than perfection in his concepts of what was the desirable truth.

Ending the war had been simple. But now the *Sentinel* had to print the truth of the post-war adjustments. Domestically these seemed to be working fine, at the moment. Demobilization was being carried out smoothly and gradually, and the startling technological improvements matured in secrecy during war time were now bursting forth to take up the slack in peace-time production.

The international scene was more difficult. The willful nationalism of a few misguided senators threatened to ruin any possible adjustment. MacVeagh had to keep those men in check, and even more difficult, he had to learn the right answers to all the problems.

The eventual aim, he felt sure, must be a world State. But of what nature? He plowed through Clarence Streit and Ely Culbertson and everything else he could lay hands on, rejecting Culbertson's overemphasis on the nation as a unit and Streit's narrow definition of what constitutes democracy, but finding in each essential points that had to be fitted into the whole.

MacVeagh's desk was heavy with books and notes and card indexes, but he was not thinking of any of these things. He was thinking of Laura.

The breaking point had come that night they went out with Molly and the G-man. (Odd episode, that. Why a G-man here in peaceful Grover? And so secretive about his mission and so abrupt in his departure.) It might have been the picture that brought it on, a teary opus in which Bette Davis suffered nobly.

It was funny that he couldn't remember the words of the scene. According to all tradition, they should be indelibly engraved on the tablets, et cetera. But he didn't remember the words, just the general pain and torture.

Laura crying, crying with that helpless quiet desperation that is a woman's way of drowning her sorrows. Himself, puzzled, hurt, trying to help and comfort her. Laura shuddering away from his touch. Laura talking in little gasps between her sobs about how he was nice and she liked him and he was so good to her, but she didn't understand, she never had understood how she made up her mind to marry him and she would try to be a good wife, she did want to, but—

He remembered those words. They were the only ones that stayed indelible: "—I just don't love you."

He had quieted her finally and left her red-eyed but sleeping. He slept that night, and all the nights since then, in the guest room that some day was to be converted into a nursery.

Was to have been converted.

There's a catch, Molly said. Always a catch. You can make your marriage true, but your wife's love—

A man isn't fit to be God. A woman who cannot love you is so infinitely more important than the relation of Soviet Russia to western Europe.

MacVeagh almost barked at Lucretius Sellers when he came in. The old printer was a regular visitor at the *Sentinel*. He wasn't needed any longer, of course, with the new presses and the new staff that tended them. But he'd appointed himself an unofficial member of the *Sentinel's* forces, and MacVeagh was glad, though sometimes wondering how much of the truth about the truth Luke Sellers might guess.

Tonight Luke glanced at the laden desk and grinned. "Hard at it, Johnny?" He was sober, and there was worry in his eyes behind the grin.

MacVeagh snapped his thoughts back from their desolate wanderings. "Quite a job I've got," he said.

"I know. But if you've got a minute, Johnny—"

MacVeagh made a symbolic gesture of pushing books aside. "Sure, Luke. What's on your mind?"

Luke Sellers was silent a little. Then, "I don't like to talk like this, Johnny. I wouldn't if I wasn't afraid you'd hear it somewheres else. And Molly, even she thinks I ought to tell you. It's getting her. She slapped Mrs. Manson's face at the Ladies' Aid last meeting. Not but what that's sensible enough, but she's generally acting funny. Sometimes I'm almost afraid maybe—"

He bogged down.

"That's a heck of a preamble, Luke. What's it leading up to? Here—want to oil up your larynx?"

"Thanks, Johnny. Haven't had a drink all day—wanted to have my head clear to— But maybe this might help— Well, peace forever! Thanks."

"O. K. Now what?"

"It's— Johnny, you're going to kick me out of this office on my tail. But it's about Mrs. MacVeagh."

"Laura?"

"Now hold on, Johnny. Hold your horses. I know there's noth-

ing in it, Molly knows there's nothing in it, but it's the way people around town are talking. She's been seeing a lot of that manager out at the plant, what's-his-name, Johansen. You work here late at nights and— Phil Rogers, he saw them out at Cardotti's roadhouse. So did Jake Willis another night. And I just wanted— Well, Johnny, I'd rather you heard it from me than down at Clem's barber shop."

MacVeagh's face was taut. "It's no news to me, Luke. I know she's lonely when I work here. Fact is, I asked Johansen to show her a little fun. He's a good guy. You might tell that to Mrs. Manson and the boys at Clem's."

Luke Sellers stood looking at MacVeagh. Then he took another drink. "I'll spread it around, Johnny."

"Thanks, Luke."

"And I hope I can make it sound more convincing than you did."

He left. John MacVeagh sat silent, and the room was full of voices.

"How does it feel, MacVeagh? What's it like to know that your wife— No, MacVeagh, don't rub your forehead. You'll prick yourself on the horns—"

"Don't listen, MacVeagh. It's just people. People talk. It doesn't mean anything."

"Where there's smoke, MacVeagh— Remember? You didn't think there was any fire in Laura, did you? But where there's smoke there's—"

"You could fix it, you know. You could fix it, the way you fix everything. Something could happen to Johansen."

"Or if you haven't the heart for that, MacVeagh, you could send him away. Have him called to Washington. That'd be a break for him, too."

"But it wouldn't solve the problem, would it, MacVeagh? She still wouldn't love you."

"You don't believe it, do you, MacVeagh? She can't help not loving you, but she wouldn't deceive you. You trust her, don't you?"

"MacVeagh."

It was some seconds before John MacVeagh realized that this last voice was not also inside his head. He looked up to see Phil Rogers, the perfect profile as hyperpale as it had been on the night of his aunt's murder. His white hand held an automatic.

"Yes?" MacVeagh asked casually. He tensed his body and calculated positions and distances with his eyes, while he wondered furiously what this meant.

"MacVeagh, I'm going to send you to meet God."

"My. Fancy talk." It was difficult. MacVeagh was hemmed in by files and a table of reference books. It would be next to impossible to move before Phil Rogers could jerk his right index finger. "And just why, Phil, should you take this job on yourself?"

"Maybe I should say because you stole Laura, and now she's making a fool of herself—and you—with that Johansen. I wanted her. I'd

have had her, too. H. A. and I had it all fixed up."

It wasn't worth explaining that MacVeagh and Rogers had equally little just claim on Laura. "Noble," said MacVeagh. "All for love. You'd let them stretch your neck for love, too?"

Rogers laughed. "You know me, huh, MacVeagh?"

Play for time, that was the only way. "I know you enough to think there's a stronger motive—stronger for you."

"You're right there is. And you're going to hear it before you go. Go to meet God. Wonder what He'll think—of meeting another god."

This was more startling than the automatic. "What do you mean by that, Phil?"

"I've heard Luke Sellers talking when he was drunk. About General Wigginsby and the butler's confession. Everybody thought he was babbling. But I got it. I don't know how it works, but your paper prints true. What you print happens."

MacVeagh laughed. "Nonsense. Listen to Luke? You must've been tight yourself, Phil. Go home."

"Uh-uh." Rogers shook his head, but his hand didn't move. "That explains it all. All you've done to me. You took Laura. You shoved that softy Johansen into the general manager's job I should have had. You got that sniveling, weak-kneed labor agreement through. You—MacVeagh, I think you ended the war!"

"And you'd hold that against me?"

"Yes. We were doing swell. Now with retooling, new products, trying to crash new markets, everything uncertain— I inherited my aunt's interest in the company. MacVeagh, you did me out of two-three years of profits."

"Do you think anybody'd believe this wild yarn of yours, Phil?"

"No. I don't. I was tight, just tight enough so things made sense. I wouldn't swallow it sober myself. But I know it's true, and that's why I've got to kill you, MacVeagh." His voice rose to a loud, almost soprano cry.

The white hand was very steady. MacVeagh moved his body slowly to one side and watched the nose of the automatic hold its point on him. Then, with the fastest, sharpest movement he'd ever attained in his life, he thrust his chair crashing back and dropped doubled into the knee hole of his desk. The motion was just in time. He heard a bullet thud into the plaster of the wall directly behind where he'd been sitting.

His plans had been unshaped. It was simply that the desk seemed the only armor visible at the moment. And to fire directly into this knee hole would mean coming around and up close where he might possibly grab at Rogers' legs. The wood between him and Rogers now should be thick enough to—

He heard a bullet plunk into that wood. Then he heard it go past his ear and bury itself in more wood.

His guess was wrong. He could be shot in here. This bullet had gone past him as knives go past the boy in the Indian basket trick. But Phil Rogers was not a magician slipping knives into safe places, and no amount of contortion could save MacVeagh from eventually meeting one of those bullets.

He heard scuffling noises. Then he heard a thud that was that of a body, not a bullet, and with it another shot.

There was silence for a minute. Then a voice said, "MacVeagh? What's become of you?"

MacVeagh crawled out from under the desk. "Undignified posture," he said, "but what would you do if you were hemmed in and this maniac started— Is he hurt?"

It took a while for exchange of information, MacVeagh giving a much-censored version which made it seem that Phil Rogers was suffering a motiveless breakdown of some sort, the other telling how he'd been waiting outside, heard Phil's loud denunciations—though not their words—and then the shots, and decided to intervene. Rogers was so intent on his victim that attack from behind was a snap. The last shot had gone into Rogers' own left shoulder as they struggled. Nothing serious.

"Don't know how I can ever thank you, Johansen," said John MacVeagh.

"Any time," said his wife's lover. "It's a pleasure."

Rogers was on his feet again now. MacVeagh turned to him and said, "Get out. I don't care what you do or how you explain that bullet wound. I'm not bringing any charges. Get out."

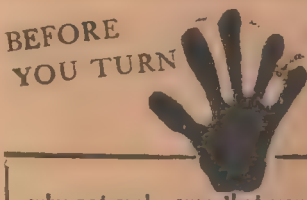
Rogers glared at them both. "I'll settle with you, MacVeagh. You, too, Johansen."

"Uh-uh. You're having a nervous breakdown. You're going to a sanitarium for a while. When you come out you'll feel fine."

"That's what you say."

"Get out." MacVeagh repeated. And as Rogers left, he jotted down a note to print the sanitarium trip and the necessary follow-ups on convalescence.

Without a word he handed a bottle to Johansen, then drank from it himself. "Thanks," he said. "I



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can't say more than that."

The tall blond man smiled. "I won't ask questions. I've had runins with Rogers myself. The boss' sister's nephew— But to tell you the truth, John, I'm sorry I saved your life."

MacVeagh stiffened. "You've still got his gun," he suggested humorlessly.

"I don't want you to lose your life. But I'm sorry *I* saved it. Because it makes what I have to say so much harder."

MacVeagh sat on the edge of his desk. "Go on."

"Cold, like this? I don't know how I thought I was going to manage to say this— I never expected this kind of a build-up—

"All right, John, this is it:

"I told you once that Laura had better be happy. Well, she isn't. I've been seeing her. Probably you know that. I haven't tried to sneak about it. She doesn't love you, John. She won't say it, but I think she still loves me. And if I can make her happy, I'm warning you, I'll take her away from you."

MacVeagh said nothing.

Johansen went on hesitantly. "I know what it would mean. A scandal that would make Laura a fallen woman in the eyes of all Grover. A fight with H. A. that would end my job here and pretty much kill my chances in general. I'll make it clear to Laura—and I think she'll be as willing to risk it as I am.

"But I'm giving you your chance. If you can make her love you, make her happy, all right. It's Laura that counts. But if in another month there's still that haunted emptiness in her eyes—well, John, then it's up to me."

The two men stood facing each other for a moment. There were no more words. There was no possibility of words. Ingve Johansen turned and left the room.

If you can make her love you— Was this the limit to the power of the god of the *Sentinel?* You can't print EDITOR'S WIFE LOVES HIM. You can't—or can you?

Numbly MacVeagh groped his way to the typewriter. His fingers fumbled out words.

"Women have a double task in this new peace time," Mrs. John MacVeagh, president of the Volunteer Women Workers, stated when interviewed yesterday.

"Like all other citizens, women must take part in the tasks of reconstruction," said the lovely Mrs. MacVeagh, nee Laura Hitchcock. "But woman's prime job in reconstruction is assuring happiness in the home. A man's usefulness to society must depend largely on the love of his wife. I feel that I am doing good work here with the VWW, but I consider the fact that I love my husband is my most important contribution to Grover's welfare."

MacVeagh sat back and looked at it. His head ached and his mouth tasted foul. Neither a pipe nor a drink helped. He reread what he'd written. Was this the act of a god —or of a louse?

But it had to be. He knew Laura well enough to know that she'd never stand up under the scandal and ostracism that Johansen proposed, no matter how eagerly she

might think she welcomed them. As Ingve had said, it's Laura that counts.

It is so easy to find the most flattering motives for oneself.

He wrote a short item announcing I. L. Johansen's resignation as manager of the Hitchcock plant and congratulating him on his appointment to the planning board of the new OPR, the Office of Peace-time Reconstruction. He was typing the notice of Philip Rogers' departure for a sanitarium, phrased with euphemistic clarity, when Luke Sellers came back.

Luke had been gone an hour. Plenty had happened here in that hour, but more where Luke Sellers had been. The old printer had aged a seeming ten years.

He kept twitching at his little scraggle of white beard, and his eyes didn't focus anywhere. His lips at first had no power to shape words. They twisted hopefully, but what came through them was just sound.

"Molly—" Luke said at last.

John MacVeagh stood up sharply. "What is it? What's wrong?"

"Molly— Told you I was worried about her—"

"She— No! She hasn't! She couldn't!"

"Iodine. Gulped it down. Messy damned way. Doc Quillan hasn't much hope—"

"But why? Why?"

"She can't talk. Vocal cords— It eats, that iodine— Keeps trying to say something. I think it's— Want to come?"

MacVeagh thought he understood a little. He saw things he should have seen before. How Molly felt about him. How, like Johansen with Laura, she could tolerate his marriage if he was happy, but when that marriage was breaking up and her loss became a pointless farce—

"Coming, Johnny?" Luke Sellers repeated.

"No," said MacVeagh. "I've got to work. Molly'd want me to. And she'll pull through all right, Luke. You'll read about it in the *Sentinel*."

It was the first time that this god had exercised the power of life and death.

VIII.

The next morning Laura looked lovelier than ever at breakfast as she glanced up from the paper and asked, "Did you like my interview?"

MacVeagh reached a hand across the table and touched hers. "What do you think?"

"I'm proud," she said. "Proud to see it there in print. More coffee?"

"Thanks."

She rose and filled his cup at the silver urn. "Isn't it nice to have all the coffee we want again?" As she set the cup back at his place, she leaned over and kissed him. It was a light, tender kiss, and the first she had ever given him unprompted. He caught her hand and held it for a moment.

"Don't stay too late at the office tonight, dear," she said softly.

"Most amazing recovery I ever saw," Doc Quillan mumbled. "Take a while for the throat tissues to heal.

but she'll be back at work in no time. Damned near tempted to call it a miracle, MacVeagh."

"I guess this OPR appointment settles my part of what we were talking about," Ingve Johansen said over the phone. "It's a grand break for me—fine work that I'm anxious to do. So I won't be around, but remember—I may come back."

"Gather Phil made a fool of himself last night," said H. A. Hitchcock. "Don't worry. Shan't happen again. Strain, overwork—He'll be all right after a rest."

Father Byrne dropped in that morning, happily flourishing a liberal journal which had nominated Grover as the nation's model town for labor relations.

Chief Hanby dropped in out of pure boredom. The Grover crime rate had become so minute that he feared his occupation was all but gone. "The crooks are all faded," he said. " 'The strangers shall fade away, and be afraid out of their close places.' Psalms, eighteen, forty-five. Grover's the Lord's town now."

John MacVeagh stood alone in his office, hearing the whir of presses and the rushing of feet outside. This was his, the greatest tool of good in the world's history.

"And God saw everything that he had made, and, behold, it was very good." Genesis, as Chief Hanby would say, one, thirty-one.

He did not stay too late at the office that night.

John MacVeagh reached over to the night table for a cigarette. There are times when even a confirmed pipe smoker uses them. In the glow of the match he saw Laura's face, relaxed and perfect.

"Want one?"

"No thanks, dear."

He took in a deep breath of smoke and let it out slowly. "Do you love me?" he asked gently.

"What do you think?" She moved closer and laid her head on his shoulder.

He felt a stirring of discontent, of compunction. "But I— Do you really love me? Not just because of that interview—what I made you say, but—"

Laura laughed. "You didn't make me say it. Except that your being you is what makes me love you, and that's what made me say it. Of course I love you. I know I've been frightfully slow realizing it, but now—"

"I want you to love me. I want you really to love me, of your own self—"

But even as he spoke, he realized the hopelessness of his longing. That could never be now. He had forcibly made her into a thing that loved him, and that "love" was no more like true love than the affection of a female robot or—he shuddered a little—the attentions of the moronic ghost that brought love to Professor Guildea.

He could not even revoke this

forced love, unless by figuring some means of printing that she did not love him. And that then would be true, and forbid all possibility of the real love that she might eventually have felt for him.

He was trapped. His power and his ingenuity had made him the only man on earth who had not the slightest chance of ever feeling the true, unfeigned, unforced love of his wife.

It was this that brought it all into focus. MacVeagh understood now the nagging discontent that had been gnawing at him. He looked at everything that he had made, and behold, he felt only annoyance and impatience.

He tried to phrase it once or twice:

"Jake, supposing you knew it was only a trick, this change in your beliefs. It was just a hoax, a bad practical joke played on you."

"How could it be? I used to have crazy ideas. I used to think I was too smart to believe. Now I know different. That's no joke."

"Father Byrne, do you think this labor agreement could have been reached without outside pressure? That men and management really could have got together like this?"

"They did, didn't they, John? I don't understand what you mean about outside pressure—unless," the priest added, smiling, "you think my prayers were a form of undue influence?"

MacVeagh did not try to explain what god had answered those prayers. Even if you could persuade people of the actual state of things, that he and the *Sentinel* had made them what they were, the truth would remain the truth.

He realized that when Molly came back to the office. For Molly knew the whole story and understood. She understood too well. Her first words when they were alone were, "Boss, I'm really dead, aren't I?"

He tried to pretend not to understand. He tried to bluff through it, pass it off as nothing. But she was too sure. She insisted, "I died that night." Her voice was a rough croak. He had forgotten to specify a miraculous recovery of the iodine-eaten vocal cords.

At last he nodded, without a word.

"I suppose I ought to thank you, boss. I don't know if I do— I guess I do, though. Laura came to see me in the hospital and talked. If she loves you, you're happy. And if you're happy, boss, life's worth living."

"Happy—" Then his words began to tumble out. Molly was the first person, the only person that he could talk to about his new discovery: the drawback of omnipotence.

"You see," he tried to make it clear, "truth has a meaning, a value, only because it's outside of us. It's something outside that's real and valid, that we can reckon against. When you make the truth yourself it doesn't have any more meaning. It doesn't feel like truth. It's no truer than an author's characters are to him. Less so, maybe; some-

times they can rebel and lead their own lives. But nothing here in Grover can rebel, or in the world either. But it's worst here. I don't know people any more."

"Especially me," said Molly.

He touched her shoulder gently. "One thing I didn't make up, Molly. That's your friendship for me. I'm grateful for that."

"Thanks, boss." Her voice was even rougher. "Then take some advice from me. Get out of Grover for a while. Let your mind get straightened out. See new people that you've never done anything to except end the war for them. Take a vacation."

"I can't. The paper's such a responsibility that—"

"Nobody but me knows about it, and I promise to be good. If you're away, it'll run just like any other paper. Go on, boss."

"Maybe you're right. I'll try it, Molly. But one thing."

"Yes, boss?"

"Remember: this has got to be the best proofread paper in the world."

Molly nodded and almost smiled.

For an hour after leaving Grover, John MacVeagh felt jittery. He ought to be back at his desk. He ought to be making sure that the Senate didn't adopt the Smith amendment, that the Army of Occupation in Germany effectively quashed that Hohenzollern Royalist putsch, that nothing serious came of Mr. Hasenberg's accident at the plant—

Then the jitters left him, and he thought, "Let them make out by themselves. They did once."

He spent the night at the Motel in Proutyville and enjoyed the soundest sleep he had known in months. In the morning he went next door to chat with the plump garage proprietor, who'd been good company on other trips.

He found a woman there, who answered his "Where's Ike?" with "Ain't you heard? He died last week. Too much beer, I guess."

"But Ike lived on beer."

"Sure, only he used to drink only as much as he could afford. Then for a while seems like there wasn't no limit to how much he had, and last week he comes down with this stroke. I'm his daughter-in-law; I'm keeping the joint going. Not that there's any business in times like these."

"What do you mean, in times like these?"

"Mister, where you been? Don't you know there's a war on?"

"No," said John MacVeagh dazedly. The daughter-in-law looked after him, not believing her ears.

MacVeagh hardly believed his, either. Not until he reached the metropolis of Zenith was he fully convinced. He studied newspapers there, talked with soldiers and defense workers.

There was no doubt at all. The world was at war.

He guessed the answer roughly. Something about relative truths and spheres of influence. He could

work it out clearly later.

His head was spinning as he got back to his parked car. There was a stocky young man in a plain gray suit standing beside it, staring at the name plate GROVER attached to the license.

As MacVeagh started to get in, the young man accosted him. "You from Grover, Mac?"

MacVeagh nodded automatically, and the man slipped into the seat beside him. "We've got to have a talk, Mac. A long talk."

"And who are you?"

"Kruger. F. B. I." He flashed a card. "The Bureau is interested in Grover."

"Look," said MacVeagh, "I've got an appointment at the Zenith *Bulletin* in five minutes. After that, I'm at your disposal. You can come along," he added as the G-man hesitated.

"O. K., Mac. Start thinking up answers."

Downtown traffic in Zenith was still fairly heavy, even in wartime. Pedestrian traffic was terrific. MacVeagh pulled his car up in the yellow zone in front of the Bulletin Building. He opened his door and stepped out. Kruger did the same. Then in an instant MacVeagh was back in the driver's seat and the car was pulling away.

He had the breaks with him. A hole opened up in the traffic just long enough to insure his getaway. He knew there were too many bystanders for Kruger to risk a shot. Two blocks away he deliberately

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stalled the car in the middle of an intersection. In the confusion of the resulting pile-up he managed to slip away unnoticed.

The car had to be abandoned, anyway. Where could he get gas for it with no ration coupons? The important thing was to get away with his skin.

For he had realized in an instant that one of Kruger's first questions would be, "Where's your draft card, Mac?" And whatever steps he had to take to solve the magnificent confusion which his godhead had created, he could take none of them in Federal prison as a draft evader.

Molly stared at the tramp who had forced his way into the *Sentinel* office. "Well," she growled, "what do you want?"

"Molly, don't you know me?"

"Boss!"

The huskies on either side of him reluctantly relaxed their grips. "You can go, boys," she said. They went, in frowning dumbness.

MacVeagh spoke rapidly. "I can't tell it all to you now, Molly. It's too long. You won't believe it, but I've had the Feds on my tail. That's why this choice costume, mostly filth. The rods were the only safe route to Grover. And you thought I should take a vacation—"

"But why—"

"Listen, Molly. I've made a world of truth. All right. But that truth holds good only where the *Sentinel* dominates. There's an imaginary outside to go with it, an outside that sends me dispatches based on my own statements, that maintains banking relations with our banks, that feeds peacetime programs to our radios, and so on, but it's a false outside, a world of If. The true outside is what it would be without me: a world at war."

For a moment Molly gasped speechlessly. Then she said, "Mr. Johansen!"

"What about him?"

"You sent him to the Office of Peace-time Reconstruction. That's in your world of If. What's become of him?"

"I never thought of that one—But there are problems enough. It isn't fair to the people here to make them live in an unreal world, even if it's better than the real one. Man isn't man all by himself. Man is in and of his time and the rest of mankind. If he's false to his time, he's false to himself. Grover's going to rejoin the world."

"But how, boss? Are you going to have to start the war all over?"

"I never stopped it except in our pretty dream world. But I'm going to do more than that. I'm going to reveal the whole fake—to call it all a fake *in print.*"

"Boss!" Molly gasped. "You . . . you realize this is suicide? Nobody'll ever read the *Sentinel* again. And suicide," she added with grim personal humor, "isn't anything I'd recommend."

"I don't count beside Grover. I don't count beside men. 'For God,' "

he quoted wryly, "'so loved the world—'"

"This is it," said John MacVeagh much later.

That edition of the *Sentinel* had been prepared by a staff of three. The large, fine new staff of the large, fine new *Sentinel* had frankly decided that its proprietor was mad or drunk or both. Storming in dressed like a bum and giving the craziest orders. There had been a mass meeting and a mass refusal to have anything to do with the proposed all-is-lies edition.

Luke Sellers had filled the breach again. He read the copy and nodded. "You never talked much, Johnny, but I had it figured pretty much like this. I was in at the start, so I guess it's right I ought to be in at the end."

This was the end now. This minute a two-sheet edition, its front page one huge headline and its inside pages containing nothing but MacVeagh's confession in large type, was set up and ready to run.

The confession told little. MacVeagh could not expect to make anyone believe in Whalen Smith and wishes and variable truths. It read simply like the story of a colossal and unparalleled hoax.

"There won't be enough rails in town for the guys that'll want to run you out on one, Johnny," Luke Sellers warned.

"I'm taking the chance. Go ahead: print it."

The presses clanked.

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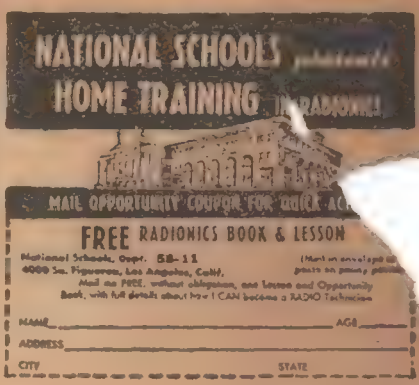
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There was a moment of complete chaos.

Somewhere in that chaos a part of MacVeagh's mind was thinking, "This was what had to happen. You gave your wish an impossible problem: to print that its truth is not truth. Like the old logical riddle about how you cannot say, 'I am lying.' If you are, it's the truth, and so you're not. Same in reverse. And when the wish meets the impossible—"

The wish gave up. It ceased to be. And in the timeless eternity where all magic exists, it ceased ever to have been.

IX.

"All right then, tell me this: If God can do anything—" Jake Willis cleared his throat and paused, preparatory to delivering the real clincher.

The old man with the scraggly beard snorted and took another shot of applejack. "Why doesn't He end the war? I'm getting tired of that, Jake. I wish you'd go back to the weight He can't lift. Father's explained this one before, and I'm willing to admit he makes a good case."

"I don't see it," said Jake stubbornly.

Father Byrne sighed. "Because He must have free will. If men were mere pawns that were pushed around by God, their acts would have no merit in them. They would be unworthy to be the children of God. Your own children you love even when most they rebel. You do not love your chessmen. Man must work out his own salvation: salvation on a silver platter is meaningless."

John MacVeagh stirred restlessly. This idea seemed so familiar. Not from hearing Father Byrne expound it before, but as though he had worked it out for himself, sometime, in a very intimate application.

"But if there is a God—" Jake went on undisturbed.

MacVeagh caught Ingve Johansen's eye and grinned. He was glad Johansen had joined the cracker-barrel club. Glad, too, that Johansen's marriage with Laura Hitchcock was working so well.

The man with the tired face was playing with the black Scottie and trying to think of nothing at all. When he heard footsteps, he looked up sharply. The tiredness was automatically wiped from his face by a grin, which faded as he saw a stranger. "How did you get in here?" he demanded.

The stranger was an old man with a beaked nose. In the dim light it was hard to tell whether or not he wore a beard. He said, "I've been working for you."

The man with the Scottie looked at the defense-worker's identification card which said

WHALING, SMITH

He resumed the grin. "Glad to see you. Fine work they've been turning out at your plant. You're a delegate to me?"

"Sort of. But just for me. You see, I'm quitting."

"You can't. Your job's frozen."

"I know. But that don't count. Not for me. But it's this way: Since the army took over the plant, looks like you're my employer. Right?"

The man seemed puzzled as he fitted a cigarette into a long holder. "I guess so. Smoke?"

"No, thanks. Then if you're my employer, you've been a good one. You've got a wish coming to you."

The man with the holder peered at the other. It was hard to make him out. And he'd come in so silently, presumably through the guards.

The grin was crooked as he said, "I don't think you're even here. And since you aren't, there's no harm in playing the game. A wish—" He looked at the globe on the table and at the dispatches beside it. "Yes," he said finally, "I have a wish—"

John MacVeagh paused beside the gypsy's booth at the Victory Garden Fair. "Want to have your fortune told, Molly?"

Molly shuddered. "Maybe I'm silly. But ever since I was a child I've been scared of anything like magic. There's always a catch."

The Scottie had been trying to gather courage to bark at the stranger. Now he succeeded. "Be quiet, Falla," his owner ordered. "Yes, Whaling, I wish—"

THE END.

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Master Chemist

Continued from page 109

specially evolved colonies can produce.

Chemistry has made enormous advances—but it must, as yet, confine itself to working with reasonably stable systems of molecules. Life is stable only when it ceases to live; living cells are inherently unstable, dynamic equilibria, capable of producing vastly more complex, and hence more precisely specialized, substances.

It was a plant that invented the chemical compound so inordinately specialized that it attacked one particular small bundle of nerve fibers out of all the billions of nerve cells in the human body. Digitalin, with absolute pin-point selectivity, reacts on the specific protoplasm of a special little nerve bundle regulating the progression of pulse waves down the heart muscle—the Bundle of His.

It was the cinchona tree that produced quinine, a chemical agent sufficiently specific that, in a concentration harmless to man, it is a deadly poison to the malaria parasite.

The penicillium mold has now been made to yield another toxin that kills pathogenic microorganisms when present in a concentration harmless to man. The sulfa drugs have the same powers—but are not as delicately specific; the curative concentrations of the sulfa drugs are decidedly toxic to the patient, commonly producing a feeling of exhaustion, and occasionally producing reactions so violent the drug must be discontinued.

The real business of chemotherapy is to find chemical agents so highly specialized that they will, like quinine and penicillin, prove fatal to a selected microorganism victim, while leaving the human patient unharmed. To date, the only man-made *curative* chemical agents, as distinct from palliatives that help make the patient more comfortable while his own body produces the cure, are the salvarsan arsenicals, atabrine, and the sulfa drugs.

Atabrine is a second-line substitute for the biochemical product quinine, and a biochemical product has now been found superior to the sulfa drugs. It may be that the future will find chemists and mechanical equipment producing the great curative drugs—but my bets are down on a real program of microbiochemical research. It takes generations to breed trees to produce a desired substance, years to produce a new line of annual plants like the digitalin-bearing foxglove, but new strains of microorganisms can be bred in weeks. Life-processes are possible only because of highly specialized, delicately balanced enzymes and ferments; they are the obvious source for precisely the minutely specialized poisons chemo-therapy demands. And they can produce in quantity economically, if the proper strains are bred.

THE END.

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